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ABSTRACT

The aims of this conference on education in the South were to identify important trends, garner expertise on the trends, and explore emerging educational issues. The conference produced 67 papers and talks presented at five subject sessions in addition to opening and closing sessions. Papers from the opening session discuss the role of technology in future educational change, National Institute of Education programs in the South, earlier conferences on educational futures, the effects of computers on public education, satellite communications, public schools' failure to accept new educational technology, and the necessity of examining possible educational futures. The five subject sessions, divided into 21 panels, cover educational policy issues related to the South, the past and present of southern education, regional economic development and educational needs, and the impacts of the telecommunications and computer revolutions on education. Papers from the closing session examine the regional programs of the U.S. Department of Education in the south, the need to redefine education, and the role of the Southeastern Regional Council for Educational Improvement in helping set a southern educational policy agenda. (Author/RW)

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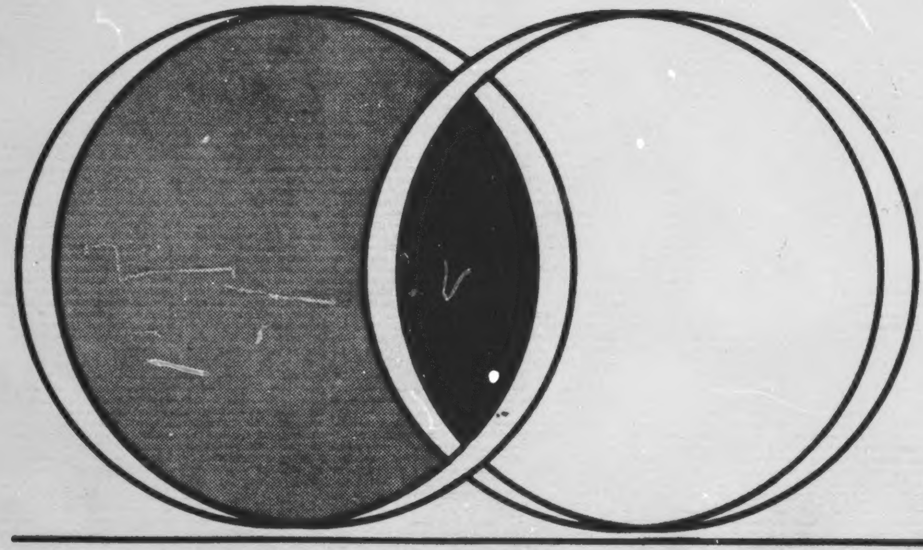

visions, issues, and reality:
a changing south

EA 014 263

SOUTHEASTERN REGIONAL COUNCIL FOR EDUCATIONAL IMPROVEMENT

VISIONS, ISSUES, AND REALITY: A CHANGING SOUTH

Papers deriving from the Second Conference on the Future of Education in the Southeast, Orlando, Florida, November 9-11, 1980.

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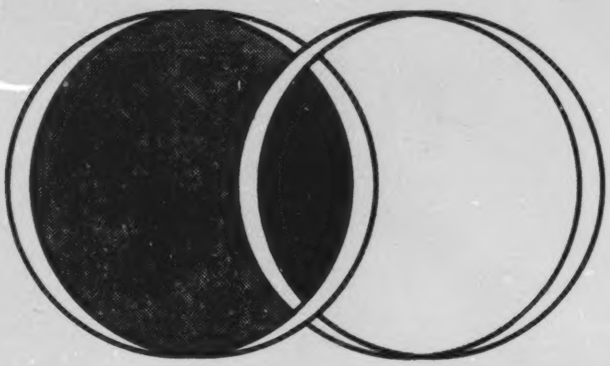

visions, issues and reality: a changing south

bernice h. willis, editor

1981

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preface

JACK D. COOK

Coordinating over 75 major presenters in less than three days was no easy task. Too much was scheduled too fast by too many for too few. Yet, in spite of the logistical errors and the smaller number of participants than we had planned for, the Second Conference on the Future of Education in the Southeast was a powerful success. The only losses occurred to those who were not present.

The purpose of this conference was to identify important trends in the society at large, garner expertise on those trends, and assemble an audience of leaders in both the public and private sectors to explore the emerging issues and work for resolution of the same.

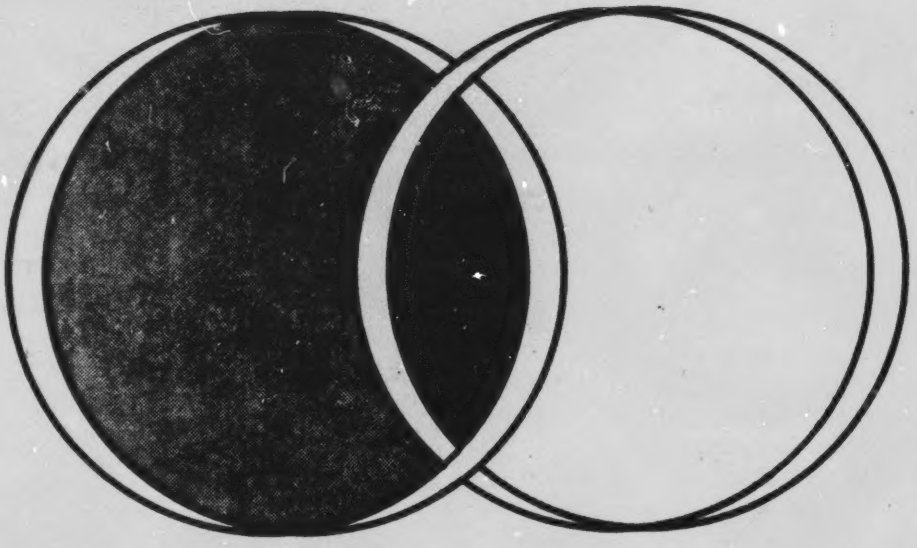
The multidisciplinary nature of the program and the presenters is no small tribute to the Steering Committee and the Planning Committee, who gave tremendous support in conceptualization and implementation of this important public event.

This document will provide you with much of what you missed as you had to make choices between five concurrent sessions. This document will be of value to our friends and colleagues, serving as a source of ideas about the future of the South and education's role in that future. This document will further dialog on the emerging issues that will impact education, and hopefully strengthen the informal network of concerned citizens in the South.

The single most important policy issue facing leaders at all levels of government, business, and industry is to ameliorate the conditions which make for the victimization syndrome. We must create conditions that enable everybody to win as often as possible, and never at someone else's expense.

We must create a paradigm of collaboration and interdependence on the local, national, and international levels. We must learn to work together for the achievement of human goals, even if it means the total retrofitting of policy and realignment of institutional goals.

We must create the capacity for institutional creativity to emerge in the encounter with the issues. We must generate institutional courage to face the issues. We must generate ideas commensurate wiht the issues and problems of an exceedingly complex world. We must lead with vision through these troubling times. We must leave a legacy to our children, and that legacy must be no less than a chance at the future too.



opening general session

call to order

WAYNE TEAGUE

It is indeed a pleasure to be here today and have all of you with us. We're looking forward to a very fine conference, a second one for the improvement of education in our region. We have outstanding speakers and presenters, and I would like at this time to give special thanks to Charles and Jack and the staff.

This has been the first year of our endeavor. It has been a very trying time, I'm sure, on them, but they have come through with flying colors. I am looking forward to even greater things in the year ahead of us. I will not take up a lot of your time now. Dr. Charles Law and I will be co-chairing the session this afternoon and introducing the speakers. We have been most privileged to work with the Orange County Public School System, and we have asked the superintendent, Dr. James Schott of the Orange County School System, to come and bring a welcome from this very wonderful community. Dr. Schott.

welcome from the orange county school system

JAMES L. SCHOTT

We are glad to have you here in Central Florida at the Second Conference on the Future of Education. I am pleased to be with a group of people who are confident about the future. I am glad to be here and glad to have you here.

I'd like to tell you about the Orange County Public Schools. We are the twenty-sixth largest school system in the United States and the sixth largest in Florida. We have a county school system with 107 schools, over 10,000 employees, and a budget that exceeds $205,000,000. We are the second largest employer in Central Florida.

We believe there is a bright future in education in Orange County as well as throughout the United States. Our public schools are doing a better job today than ever in the history of this nation. Free universal education is fast becoming a reality.

We are particularly proud of the significant role that our schools are playing in the future of Orange County. We have programs ranging from pre-kindergarten to senior citizens. We touch the lives of over 100,000 students daily. Since we are the second largest employer, we make a substantial contribution to the economic base of this community as well.

We are so glad that you chose to come here. We are proud of our school system and our community. We are also proud of this conference because it does point to the future and your commitment to the continual improvement of quality education. It is a beginning that helps focus on what the future will mean to all of us.

We do hope that you enjoy your stay here. I know you're going to have a wonderful and productive conference. Welcome to Orange County.

welcome from the state of florida

RALPH D. TURLINGTON

Welcome to Florida and the Second Conference on the Future of Education in the Southeast. We really mean that. It is my pleasure to welcome those of you from other states and to express hope that you will enjoy your visit to my own state. Orlando and Orange County have much to offer. I encourage you to find time during your stay to see as many of the local attractions as you can. It's also a pleasure to see our own state and to welcome you Floridians to the conference.

At this time, I would like to thank the citizens of Orange County and Dr. Schott, Superintendent of the Orange County Public Schools, for their kind and thoughtful hospitality. They have done a great job in preparing for this occasion. Dr. Schott and members of his staff have made a very special effort to assure our comfort and convenience and we're most grateful to them.

It is also gratifying to see so many people here from outside of public education. Many of the recent gains that we have made in our public schools can be traced to the efforts of men and women like you who are working hand in hand with the educational system. If we are to build successfully on the progress that we have made, we must have your continued support. It is our responsibility as educators to see that you are included.

I am here today to state that there is a new vitality, I believe, in education. Our eagerness about the future of education and your presence here today signifies that fact. We're discovering not only that something must be done but that something can be done. The state of Florida like the other nine Southeastern states is pledged to building a strong future. We believe that the Southeastern Regional Council for Educational Improvement can play an exciting and crucial role in creating that future. We must bear in mind that this will not happen overnight, nor can we expect to achieve anything of lasting value without some struggle. Each state will receive a return on its investment that is commensurate with what it gives. The only thing of which we can be absolutely certain is that it will take a lot of smart work. If we know what we want to accomplish, we have the opportunity and the potential to achieve great things. I believe that we do know what we need to accomplish, and now we must have the will and the commitment to do it. This is my challenge to you, to summons that will and commitment to fulfill the promise of this meeting.

Once again, welcome to Florida, and I extend to you my best wishes for a fruitful meeting.

where does tomorrow come from?: a multimedia presentation

A. CRAIG PHILLIPS

The people who are gathered here, but what's much more important the thousands and millions of people you represent, do care about children, young people, and in a broader sense care about people and education, and primarily care about this great region of America. A force for tomorrow is the key message of the mission of this great new Council. It is one of a number of efforts for people to take a look at where we are, where we need to go, how we shall get there, what kinds of priorities we will place on our resources, our time and our people, and how well we will measure that which we do.

There are a number of efforts across this great region and across America trying to find some of the answers to the real planning process. This Council's mission is reflected very clearly in this fine new brochure, which I hope you will look at very carefully, which describes its mission and its purpose. I am proud of the beginning of this Council. I am more proud of its potential. I join with Wayne Teague in expressing pride in the staff and in a broader sense, all those who participated in the beginning activities of this Council.

This multimedia presentation really speaks for itself. But I would make two quick comments about it. It does provide a message for us which is clear, which is in some ways frightening, which is certainly challenging, which is certainly directive for all of us who care about this great region, and which is directive for this great futures conference and all that it can mean not only to us, but to those we represent. The second comment is that the spinoff for us should be a renewed awareness of the power of technology, the potential use of it, and the crucial nature of it in the decisions and the action and the productivity and resolves for tomorrow which that technology implies. As a part of that, the creative people are here. They know how to use the technology, how to understand it and help us understand it, and then to make use of it for all. That's one of the key messages of this presentation. A force for tomorrow, we must start by asking the question, Where Does Tomorrow Come From?

national institute of education and the south

MICHAEL TIMPANE

I am delighted to be here today representing one of the sponsors of the Southeastern Regional Council for Educational Improvement. This is a very special project for the National Institute of Education. We are the principal federal agency supporting educational research and it's not obvious how the principal federal agency supporting educational research should come to be as enthusiastic as we are about this Council and about this project.

Let me say a few reasons why. First of all, this Council and its projects and its activities represent for us the essential component of the movement of research into practice. Research moves into practice on many dimensions and on many time lines. It moves into practice over generations, as we change our ways of thinking about education. But, it must also move into practice systematically. The people who organize, manage and conduct the practice of education, carry it on day-by-day and year-by-year must be able to locate, as the presentation pointed out, and to use the fruits of the knowledge that have been gained. That does not happen easily in a very large and very diverse nation where education is carried on so fundamentally at the local level, and where the federal government seems so far away, so hard to get in touch with and so difficult to get the right information from. So we are very concerned, even though research is where we started, with practice and with how this research must contribute to practice.

Education is a great national social enterprise, and the research we do must contribute to its improvement. This project is a very innovative example of how to do that and we are pleased for that reason.

We are pleased also that it is such an excellent example of state-local initiative in moving research into practice. Let me confess one thing right now. This was not our idea which is very hard for a federal bureaucrat to say, even a typical one. But, it is the case. One of the strengths and beauties of this project is that it was conceived and suggested to us by the educational leaders of the Southeastern states. Therein, we believe lies much of its promise for success and much of its validity as a project. We don't have to guess quite so much we're right or wrong, whether we're in tune with what's needed when we have the initiative, the definition and the activity of each of the state education agencies in the Southeast and their leaders involved, as intimately as they have been, in the conception of this project and in suggesting to us what needs to be done.

This is a truly collaborative and coordinated effort which does occur naturally in our country or in our educational system. It may be the magnitude of the problems that have brought us together. I will not go into how noble and how altruistic it may be. Nevertheless, it is the genuine collaboration and cooperation which promises proficiency that we won't reinvent the wheel in ten separate states and which promises effectiveness in that the states will contribute to one another's realization of the problem and to one another's solution of the problem.

Finally, we are excited because it's truly a forward-looking project. There are plenty of problems around today that all of us could spend all of our time not worrying about tomorrows. In fact, most of us do spend most of our time that way. It is very important to reserve some important part of our time to look ahead, to look down the road, to look way down the road, to discern what the problems of education will be and to work together to solve them. And so, in that respect too, this is an unusual and a special project for us.

It seems to me to be the kind of partnership that emerges over a period of time that from our perspective as a federal agency, at least, results from the kind of support and confidence with which the chiefs and the Southeast have given to the National Institute of Education in its brief history. I want to comment today on that and to say thank you for it. I will never forget when the Secretary of Education was having a national teleconference with all of the chief state school officers during the first week of the Department of Education and, as all of the chiefs were asking her: What are you going to do about this? What are you going to do about student aid? What are you going to do about interfering with state and local prerogatives? What are you going to do about the regulatory burden? What are you going to do about Title I? What are you going to do about education with the handicapped? Craig Phillips, God bless him, said, "What are you going to do about NIE? What are you going to do about keeping alive and well that small part of what the federal government does, its research enterprise which helps us beyond the forward edge of things"? That was a manifestation of the kind of support we've had from this region during our short life. I've been waiting for the opportunity to thank Craig appropriately for it and I think this is it. I think that in the National Institute of Education's program, moreover, there are abundant activities which have and which will contribute to your gaining together the knowledge you seek, in part because of this close interaction we've had.

I have seen today several persons represented here who are interested in rural education which since the earliest days of the Institute in some of our experimental school projects in South Carolina, Mississippi, and Kentucky has been an interest that has been kept alive in the Institute. We, in a small way, have contributed to its rebirth importantly because of the kind of perspective that comes from people like you.

I think there will be that interest and that contribution which we will make. We have tried always to keep our desegregation studies program concentrating on desegregation in all kinds of communities, not to ignore the great urban problems, but to be aware of the problems of the small towns who have desegregated their schools and who are working in a small town setting on how to succeed educationally with desegregation.

In our satellite program, in the Appalachian Community Satellite Network, we have pioneered in exploring the possibilities of the kind of delivery system which is about to burst upon us. There were times we weren't sure where that support was going to head. It's clear to us today it is an important delivery system in the future.

In the area of dissemination we have been deeply involved with the southern states in ways which, I think, culminate very much in this project. We have in all, but one southern state, our state capacity building programs in dissemination which have been active in the last five years. The state of South Carolina was, before those projects existed, a pioneer in this field. The state of North Carolina helped us set up the interstate project on dissemination which began to bring people around the nation together. The state of Arkansas today has a project that is exploring how to use substate regional activities to improve education. The state of Florida has begun to integrate the kinds of dissemination projects we support and the National Diffusion Network. Other activities which will create broad capacities for states to find pertinent information in the sea of data that exists, provide the pertinent information to those trying to improve education, and tie those expanding dissemination efforts into the long-range policy making of a region seems, to me, to be just another large step forward for our program and the culmination of much of what we've done for several years in the South.

Now my remarks could end right here, but the events of the past week or so inspire me to say a few more words. It has to do with another reason to add to your value and support for educational research. The reason is in addition to the payoffs you see today. I'd like to suggest that the payoffs of research arrive over different periods of time on different wave lengths. Educational research has in this century profoundly changed the way we think about and conduct American education. Just to mention names like Dewey, Thorndike, Skinner, Piaget, Kenneth Clark, Margaret Mead is to begin to suggest to you the richness about American education. Those names I mentioned, that galaxy of people, have produced some of the great richness of our educational system and our educational thought.

That, again, was a note struck in the multimedia presentation, the immense value of each individual child, the difference in each individual child, and the difference in how we educate each individual child. I have just returned from a trip to China which is an educational system with its own strengths and merits. You can't return without noting the differences and being proud all over again of how we value each individual child, not just the children as a whole which certainly we share with that country and with many others, but the value of each individual child and the care that each needs in our schools.

When those pioneer gentlemen and ladies were doing their research in their model schools or in their laboratories or in their classrooms, they weren't thought of as heroes and heroines in our pantheon. They probably were like many researchers today trying to do the same work. It's only in retrospect, it's only in hindsight that we can understand the contribution they made. My plea today is simply to understand that jargon-filled though it sometimes may be, mindlessly quantitative though it may sometimes seem, duplicative though some projects may sometimes appear, that they are inquiring about education today. They are the Deweys and the Thorndikes and the Piagets of our future.

Just as what we do today to produce the fruits of research in our schools must go on and merits your support, so must some attention to people who are doing very basic inquiries that may seem strange and not immediately useful to us. There are important events of the past decade which will be seen that way, the revolution in thinking called linguistics and the ability of cognitive psychologists to begin to work in cross cultural settings. While these may seem obscure kinds of research to you, I want to note that they are producing for us understanding of how the context of learning changes, learning in ways which we've never understood before. I would like to point out to you that there is a field called neuroscience, the name of which almost scared me, and the field called artificial intelligence, another name that scared me. These are fields which seem to be pulling some of the greatest intellectual talents of our society. Biologists, psychologists, physicists, electrical engineers and economists are being pulled together by the mystery and the challenge of what makes the brain work and how it works. Those two are inquiries that we must support even as we support demographers and people concerned with the immediate improvement of education and of the classroom.

Even as we are proud of your support for this kind of project, we hope to have your support for these other less visible labors that need your patience over a period of time. Therein we're producing the intellectual capital for the next generation to use. Just as we are now using the insights of Dewey, Piaget, Clark, Margaret Mead, and the others that I have mentioned, so may we have a long and productive partnership in research and educational improvement. Thank you very much.

amherst update

ARTHUR J. LEWIS

Most of you are familiar with the Rorschach test. In this personality test an individual tells what is suggested to him or her by a series of ink blots. Of course, you learn much more about the person being tested than you do about the ink blots. Let me suggest that my report to you of what happened at the Third Annual Conference of the Education Section of the World Future Society at Amherst, Massachusetts over the last three days is similar to a Rorschach test. You may learn more about me and my prejudices than about the Amherst Conference. If someone who had attended different sessions and participated in different activities were to give this report, it would vary from my account.

Let me provide some perspective on this Third Conference of the Education Section of the World Future Society. The first conference, held two years ago in Houston, was aimed primarily at helping participants understand the nature of the future. The conference, held last year in Minneapolis, continued an emphasis on the nature of the future, but there also was an attempt to identify alternatives related to education. Planners of the recent conference at Amherst not only provided a look at alternatives, but they also selected an alternative and worked to achieve that alternative. Christopher Dede, president of the section, set the tone when he said, "Ending oppression is the most significant goal that we can work on." The conference was carefully designed to help move toward that future.

Minority groups and women were well represented in the conference and presented a number of papers. Main sessions were designed to achieve the goal of overcoming oppression in the future. For example, Dick Gregory presented an extremely humorous speech, laced with hard-hitting social commentary. It probably is a mistake for me to try to relate any of Dick Gregory's stories - he tells them so well. He confided in us that he had been worried for a long time about Amy Carter. He said he really became worried during the Carter-Reagan debate when

President Jimmy reported that "just this morning Amy and I were talking about nuclear proliferation." Gregory said, "I always figured there was something wrong with that kid. Now I know what it is. She is really a 39 year old midget." Dick Gregory gave us a strong message. I came away from the session never realizing before how conservative I was, and maybe that's something worth learning.

The next major session speaker was Sally Miller Earhart, speaking on the topic, "The Future, If There Is One, Is Female," If we didn't like that title, she suggested we could use "Drop That Gun and Reach For The Sky." Now, many times speakers on the future vacillate, hedge, or are ambiguous. As far as Ms. Earhart was concerned, there was no equivocation. She got right down to business. "Violence is caused by males," she said. Since her goal is to rid the world of violence, she concluded that this could best be done by ridding the world of males. Well, not quite rid the world of males, just reduce the number to 10 percent of the population. This was a serious proposal she made and it is sobering when you consider her basic premise that violence is caused by males. It is difficult to refute that premise.

I was worried as I wondered how she would reduce the male population. (It would take a male to think of that question, wouldn't it?) I was relieved when she said she was willing to grandfather all the present men in. She went on to say that some of her friends in the movement wondered why she wanted 10 percent of the men left and thought it should be a much lower figure. But she gave us some reasons. One of the reasons, she said, is that sexual reproduction is really the easiest way to populate the earth - progress is being made on some alternatives, however. Furthermore, she said even when alternatives are developed, some women might still choose sexual reproduction. She also confided, "I think we ought to keep 10 percent, because you know, I could be wrong." I want to emphasize that Ms. Earhart was very serious in her proposal and confess that I was somewhat dismayed by it. As a result, you have this unbiased report of Ms. Earhart's speech from the male point of view.

Some of the subsessions I found to be very stimulating. One of these sessions was a critique of our use of futures in education in the United States delivered by a university professor from England. How are we viewed from across the Atlantic? I assure you that he was gentler and kinder in his critique than I will make him appear to be from my very brief explanation. One thing he criticized us for is the quality of our analyses. "Too often," he said, "you are not professional in your analysis. Material is simply presented at face value with no documentation." A second concern he expressed was with our style of expression - the jargon we use, our style of language. In fact, he said this kind of language erects barriers. Lack of boundaries was another concern he expressed - "You deal with too many things over too many areas." He was very concerned about how we deal with change in our future. He said, "You talk about change all the time, but you fail to make explicit the theory you plan to use in bringing about the change and you never develop a strategy for change." He argued persuasively for the need to balance social change with cultural and social continuity.

In a conference that was somewhat pessimistic, in contrast with last year's conference in Minneapolis, one bright spot stood out: the contribution that educational technology can make to the future of education. It is significant that no longer were participants talking about whether or not we would have microcomputers in school, that question seems to have been answered. Rather, the questions are: How soon will we have them and how will they be used? A group of students from an alternate school in Columbia, South Carolina, put on an exciting demonstration using computers. The Lamplighter School, a private school in Dallas, Texas, has 50 microcomputers. Christopher Dede made a very interesting point when he pointed out that if children learn a second language at an early age, they speak it fluently. Similarly, he said, if you learn to work with the computer at a young age, you can become very fluent on the computer.

One exciting session I attended included a demonstration of the linkage between video discs and computers. Video discs hold 54,000 frames on one side and since they are "read" by a laser beam there is no physical contact and the disc never wears out. Though I had read descriptions of video discs, I had not comprehended the tremendous power for education that is locked up in this combination of a computer and the video disc. The demonstration I saw was of a video disc that contained pictures taken in the city of Aspen, Colorado. The pictures were taken from a truck moving down the various streets with one picture taken every ten feet. By linking that video disc with a computer it was possible to "tour" Aspen over any route you wished. You started out down Main Street and a voice came through saying you are now driving south on Main Street. If, at the next corner, you wanted to turn to the right, you simply said turn right. As soon as you got to the next corner, you turned right. Then you saw what that street was like and the computer told you where you were going. If you wanted to turn left, you would say turn left and you would turn left. If you wanted to slow down, you would say slow down and it would slow down. If you wanted to go faster you would say go faster and it went faster. If there was a particular building in the picture that you wanted to see in more detail, you put your finger on the screen where the building was. Immediately a blown up picture of that building was on the screen. If that building happened to be a restaurant and you wanted to see the menu, you could ask for the menu and see it. The point is that linked to a computer a video disc is no longer linear. With the system I described you could tour Aspen following any route you wished.

From our standpoint as educators the demonstration of a video disc on the repair of bicycles had more value. The directory for the video disc is a picture of a bicycle. If you need to repair the front wheel, you put your finger on the front wheel. The computer automatically shifts you to the part of the video disc that deals with the repair of the front wheel. The video disc then shows you step-by-step how to make repairs. If you want to stop because you don't understand something, you simply press stop and it stops. If you want a close-up view, you press closer. If you want to see it from a different angle, you press a different angle. If you want to learn about a tool that is being used, you press tool and pictures and explanations of the tool are given. If you are interested in the theory of how the front wheel axle works, you ask for theory and an explanation is given. I believe you can begin to see the tremendous potential of video discs and computers for education?

One group I was in attempted to recycle history by comparing the invention of print by Gutenberg with the coming of computers. When print was first invented the Church was very opposed to having it used for anything other than religious literature. A member of the group asked, "Is it possible that we in education are playing the same role with computers that the Church played with print"? We wondered what it must have been like to be a teacher when print was developed. The teacher at that time had information and his or her chief role was to share that information. Suddenly, when people could read and get information for themselves, what was the teacher going to do? Undoubtedly, good teachers recognized that students could gain much information by reading and this permitted teachers to work with higher order objectives. You are familiar with Bloom's taxonomy - knowledge to comprehension, to application, to analysis, to synthesis and finally to evaluation. Since printed material could transmit knowledge, good teachers spent their time on comprehension, application, analysis, and possibly synthesis. The new computer technology, either with or without video discs, can be used to help learners achieve objectives at the levels of knowledge, comprehension, applications (through simulations), and analysis. This will enable teachers to deal with far higher objectives as they discover new ways to work with learners.

I will close my report by sharing two "one liners" from the conference. The hope factor. If something has ever worked in one place, it can be made to work in other settings. For example, if a school in a difficult urban setting can be successful, other schools in similar environments can also succeed. Finally, Sergeant Preston's first law of the Yukon: In a dog-sled team the scenery changes only for the lead dog.

the impact of computers on public education

JOHN E. HAUGO

The Southeastern Regional Council is to be commended for looking at the impact the various kinds of technologies have on your future. I can assure you that computers are going to be a very important part of that future. However, my remarks today are not those of a futurist. I think we've had commentary from a futurist perspective from Dr. Lewis. I'm sure you'll have other futurists predict the impact of technology in a more organized way. Statements that the impact of the computer in our society will be equivalent to that of the printing press or automobile I think possibly will be borne out, but I don't want to get in a position of making that case for computer technology. Nor will my remarks be from the context of a technician. Many of the technical aspects will be dealt with in more depth in other sessions. Rather, I would like to comment from the perspective of a practitioner.

During the past twelve years I have been directly involved in the provision of computing services on a state and regional basis. In that activity I have become aware of some of the potentials and some of the pitfalls that relate to their use in education. I'd like to narrow my remarks today and deal primarily with, but not exclusively with, the role of the microcomputer technology in education. I think all of you are generally aware of the kinds of devices we're talking about. The components of the microcomputer system for those who aren't aware consist of the computer itself, the device which carries out the instructions, the keyboard, some kind of visual display device, and occasionally a printer and various kinds of input devices. That's the kind of computer technology which I would like to relate primarily to today.

There are some features of a microcomputer which make it a very viable educational tool. First of all, is its cost. We have technology in the price range that's affordable at the local school level. Secondly, it has the potential to be linked to other kinds of technology. Thirdly, it has sound and graphics capability. And fourth, and most importantly, microcomputers as well as computer technology in general have the ability to interact with the learner. The failure of many technologies is that the ability to interact with the learner was lacking. In a traditional school setting the time in a school day that an individual can actually interact with a teacher or a tutor on a one-to-one basis is very limited. Some research shows somewhere between two and four minutes a day. With a computer we have the ability to interact on a continuous basis with the learner. That is the key from an educational standpoint of this kind of technology. That trait also exists with the video disc technology which Dr. Lewis discussed.

I would like to focus on the impact of microcomputers on public education. First, I will review very briefly the history of computers to provide a time perspective. Secondly, I will discuss some of the issues and problems associated with future use. Thirdly, I will make some judgments on the short-term, two to five year impact, and then on the long-term impact from the perspective of the practitioner and not from that of a futurist or of a technician.

In the sixties, when computers as we know them began to be used in education, they were primarily for two things: for administrative data processing, typically for our bigger, higher education institutions and our larger school districts, and for research and academic computing services primarily in higher education. At the end of the sixties we saw a concerted effort by all our computer manufacturers to get into the instructional system business. Virtually everyone of our manufacturers had major projects to develop computer based instructional systems and virtually everyone of those failed. In fact, I think the only continuing effort to look at large-scale instructional systems is the Plato effort being continued by Control Data Corporation. They failed, in my opinion, for the primary reason of the affordability of that kind of a delivery system.

In the seventies we saw more widespread use of computing in education. We saw time-sharing, where people would share time on a larger computer or minicomputer. We saw increased use for managing the school districts. In the late seventies, mainly because of the work of many electronic hobbyists, we had a significant breakthrough. That was the availability of the microcomputers which we are now seeing become so widespread today. With that kind of history and the level of awareness in some of the leading efforts happening nationally, we are probably at the threshold of a major revolution. A revolution in terms of some of the kinds of things we can do.

What are some of the issues, problems and questions that relate to how we look at the future? First, given their capability and some of the traits I mentioned, what are going to be the uses? What specifically will be the kinds of ways they will be used? Secondly, what will be the level of use in our public schools, both near and long-term? Thirdly, given the hardware cost now being affordable, courseware costs which includes software, the computer programs, and the materials are going up, as they are in the computer industry in general. How will we develop? How can you collectively or individually develop the courseware and software? Where would you get it? Fourth, depending on where the developments are done, who's going to fund the development? Who's going in any way to control that development? I think those are policy issues that, at least, your region and your individual states are going to have to address. Another related issue is if it takes a relatively large base to develop this courseware and the courseware is readily copied, there has to be some way of protecting the investment of those who develop it. The issue, then, is how is it going to be protected? What kinds of other technology will be used with the computer in the future?

A matter of concern and issue is how will educators be involved? If they aren't actually developed at the local school level, how can they be involved? Another issue is how can support services be provided? I think it's fair to say that in the majority of schools in the United States we could give them the computer, we could give them the software, and if we walked away, nothing would happen because a considerable amount of training and staff development has to take place. Another overriding question is will it really be cost effective?

The last question that I have, and this is not an exhaustive list, is how can we overcome some of the fears associated with using the computer? It's kind of socially acceptable today to be anti-machine. You say, I don't understand that. I know all about education, but I really don't know much about computers, or I never could understand those things that mess up on my paychecks and my bills. So that is a hurdle that has to be cleared. Another thing that has to be overcome is the fear of loss of jobs. Some of the things computers do will impact certain kinds of positions. Another fear that we have to overcome is the feeling of inadequacy of staff, administrators, and others when that student or son or daughter has had a lot more exposure than they have. Somehow or another most adults, when caught in this kind of situation, feel kind of inadequate. In some cases, they get turned off. So, those are real fears and I don't mean to downplay them. They are the kinds of things that have to be overcome. These are some of the questions and related issues that I have.

I would like, in the form of some planning assumptions, to conjecture again from the perspective of a practitioner what I think the answers or solutions to some of these will be. First, in terms of the use of the computer, I think we are going to see considerably more instructional drill being computerized with micros and with minicomputers. We are going to see more computer aided instruction; the tutor using the computer to present new information, using sound and color and graphics and the things you can't get in a presentation from other kinds of media. You are going to see the computer used to simulate real work situations, whether it's a business simulation or simulation of a war or a biological experiment or whatever you have. In other words, I think you're going to see many types of basic skills instruction being computerized, primarily in reading and in mathematics. If you look at what all our major publishers are doing or any major development project in the United States, they are basing their initial efforts, and the market research has showed them the most demand is going to be out there, in mathematics, in reading and the language arts skills.

A new focus that is going to come is that people are going to realize or are beginning to realize the impact on all of our society. They are going to be concerned that schools teach about the computer as an object of instruction, not only as a tool to do these other things. It is now possible to learn all the major components of the computer using a desktop microcomputer. The case can be made that students should know as much about computers as they do about steam engines or electricity or other commonplace traditional devices. In fact, there is a national conference next month in Washington which will, hopefully, set the groundwork for the whole computer literacy awareness curriculum effort. We are also going to see the computer used increasingly for management and planning purposes or administrative purposes. Those are some of the uses. There certainly are others.

The second issue was how widespread will the use of the computer in public education become? It is estimated by people who are looking at it, the United States Education Department and a few others, that there are approximately 50,000 to 75,000 microcomputers in the public schools today. By 1985 they are projecting, including the vendors who are doing their market research, that there will be approximately one million microcomputers in the public schools. By 1990 the estimate is four million. If you do a little arithmetic and realize that there are about 40 million students in the public schools in the United States and that number remains relatively constant or may decline some, that means there is one unit for every 40 students or less than one for every classroom, and in ten years one for every ten students. If you pursue those numbers and you say you want to keep them busy all day long on an interactive basis, about one-tenth of an individual student's time could be spent on a computer by 1990. That is about 30 minutes per student per day. If you're going to do a little arithmetic with the cost and are assuming that a unit costs somewhere around $2,000, the cost per year per student for hardware is about $40 per year, or about 50 cents a student hour. At about 50 cents an hour we can have a half hour of instruction for every student in his school, assuming again that we would be talking about a $2,000 device amortized over five years. That's the hardware side.

On the courseware side, we know the best estimate side is a cost of about $10,000 to develop an hour of quality courseware. That is from industry and others who have done it. Our experience at MECC indicates that also. If you consider that by 1990 the student is going to have through his ten or twelve years experience approximately a thousand hours of computer-based education, you are talking about software the student will be exposed to worth about $10,000 time 1,000 hours or ten million dollars. So what's the cost of courseware for the individual? I don't have an answer, it depends on the denominator. It is obvious that you need something bigger than the typical school district to develop the courseware to make it cost effective and to get it anywhere down to the relative cost of hardware.

Another assumption I am making is that courseware will be developed by a variety of entities, by consortia, by users on an individual basis, by publishers, by computer vendors and by higher education institutions, perhaps with federal grants to support the endeavor. Related to that, you are going to see triads of producers consisting of a developer, a publisher, and a hardware manufacturer. You have these triads now, Texas Instruments and Scott Foresman and SRA and Atari and outside developers. We are going to continue to see that. Another assumption I would make is that you are going to see a great deal of linking of the micros to the video discs with storage stations and with large network computers. Those are just some of the possibilities. I will elaborate more on these tomorrow in our detailed presentation of some of the things we have seen and done in Minnesota.

I would like to close by talking about what I see the impact being on education, not in terms of how many devices are out there, or how many dollars it costs, or who is going to do it, but rather in terms of some of the educational effects. I think in the short-term we can essentially say what is happening in some places is going to happen on a broader base. We can see improvement of basic skills attainment. We will see students becoming more computer literate. We will see schools managed more efficiently, I didn't say effectively, I said efficiently. They will crank out data faster. They will get out mailing lists, report cards, payrolls faster and more efficiently. I think we will see data becoming more generally available to decision makers and planning groups such as yours. But I think the bottom line in this short-term is that we will not see any major changes in the cost of education, in the way we organize and provide education, or in the way we deliver it from an instructional standpoint.

Long-term, though, I see all of those things potentially changing. I think we are going to see more instruction in the home, more post school education from business and industry. We are going to see more decentralization of the management process. I do not mean decentralize accountability, but I do mean the ability to determine if, in fact, you are meeting your own goals and your own competency standards because the computer can assist in that. I think we are going to see, in some cases, less costly education, particularly in the basic skills side. In general, I think, in the long-term, we are going to see the computer used to replace much of what we are doing and to do it more effectively whereas in the short-term we are seeing the computer used to supplement what we're doing and make it more efficient.

In closing, I would like to again stress the potential of this technology. I would like to challenge you in your individual states or individual entities that you represent and the Council to look at the way that you are going to deal with harnessing computer technology. Whether you are going to let it happen to you or whether you as a state or as a Southeast region are going to look at how you can deal with and deliver those kinds of services in an educationally effective manner is the issue.

satellite communications and public education

LOUIS A. BRANSFORD

I am delighted to have the opportunity to meet with you and discuss satellite technology and education. As an educator who has worked in the world of satellite technology for over ten years, I am pleased to be a part of this Second Conference on the Future of Education.

The history of satellite technology is relatively short. You must all remember Sputnik in the late fifties. We think back twenty years when we proudly pointed to an object in space the size of a grapefruit and gleamed with pride. Today we talk of space platforms and space laboratories where people will live and work thousands of miles up in space. Satellite technology has followed a path similar to computers: more capacity in a relatively smaller package at a reduced cost. If we were to correlate telecommunications costs and capacity today with cost and capacity ten years back and extrapolate to something that we are all very familiar with, the automobile, we could come up with a Cadillac that would cost us several hundred dollars with gas mileage in excess of 180 miles per gallon. The growth has been significant and will continue to develop at a very rapid pace.

Telecommunications is a dynamic, multibillion dollar industry. New systems are emerging with greater capacity but with a continual problem of keeping pace with increasing demand. Continued and expanded use of advanced technology by the public service is expected albeit with caveats. The concern that has been expressed by telecommunications specialists is that supply will not meet demand and that public service users will be bumped by private sector users. Ironically it appears that at a time when the public service community is within striking distance of the technology, the technology may not be available.

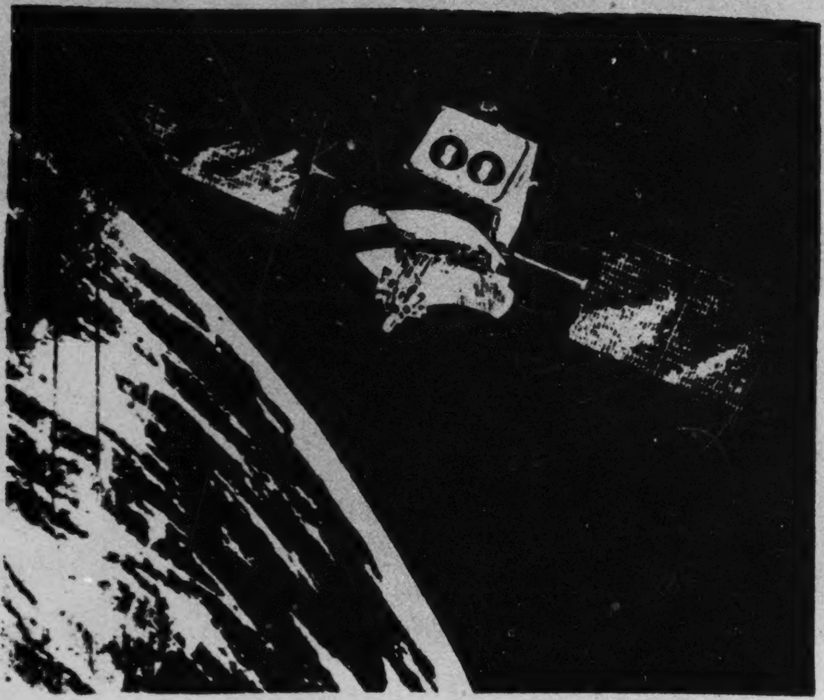
The concept of a telecommunications service based on satellites for the public service community, in general, and the educational community, in particular, is the nature of my business. Those of us today directly involved in the applications of technology are an aggregate of optimists who continue to believe that public telecommunications service can be a reality.

Why satellites? Communication satellites are no more than man-made objects launched into space around some celestial body and placed in a geosynchronous orbit at an altitude of 22,300 miles. At this altitude the orbit of the satellite is synchronous with the orbit of the earth and appears to maintain a stationary position in relation to the earth eliminating the need to track the satellite as it circumvents the earth. There are other types of satellites, such as LANDSAT, used for data gathering purposes in lower orbit that circle the earth every 90 minutes to 2 hours. Satellites can also be placed in eliptical polar orbits. The Soviet Union, for example, has satellites in polar orbits. Satellites in geosynchronous orbit cover about a third of the earth's surface, but do not include extreme northern and southern latitudes, thus the need for satellite coverage in polar regions.

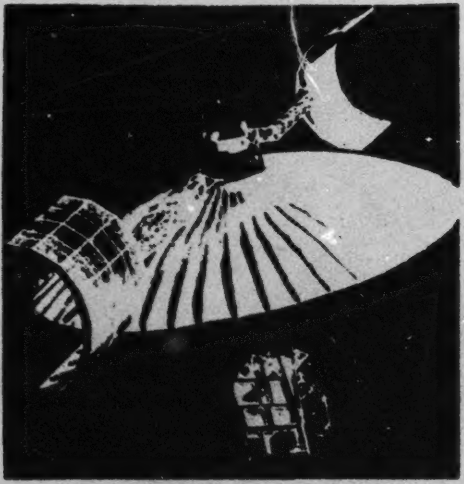
The purpose of satellites, very simply, as with other telecommunications systems available to us today, is to establish communications linkage between and among points on the earth. Satellites are also used to study and monitor the earth's environment and to collect and record a variety of scientific space-related information.

Why satellites? From experience over the years, we have identified several recurring themes that support the use of satellites in the public service. Extending programs and services to underserved people and places motivated initial efforts. Much of the early public service satellite activity was started in Alaska on ATS-1, the first of several NASA experimental satellites. Accessing a wider range of programs and materials is easily facilitated via satellite. Satellite distribution can also effect program quality by aggregating user needs and resources by demonstrating benefits from shared use of facilities. Perhaps, the fundamental reason why satellite offers an attractive option is dollars. The need to contain costs in delivery of programs and services remains paramount.

Why satellites? Basically, satellites provide a relatively simple way of distributing information. Satellites are no more than repeaters in space with earth stations on the ground that facilitate communication. Satellites are distance insensitive. For all practical purposes, any two points visible to the satellite are equidistant. The cost to communicate depends relatively little on distance between earth stations, in contrast to land lines where mileage charges increase with distance. Satellites are flexible, you can add sites as needed by simply adding earth stations on user premises. You can also interface satellite earth stations with cable to extend signal distribution such as the Appalachian Community Service Network. Ultimately the problems of terrain or geography become transparent. State borders can only be perceived as political barriers. When it comes to satellites, it has been said that only two people should be concerned with state borders: Mr. Rand and Mr. McNally.

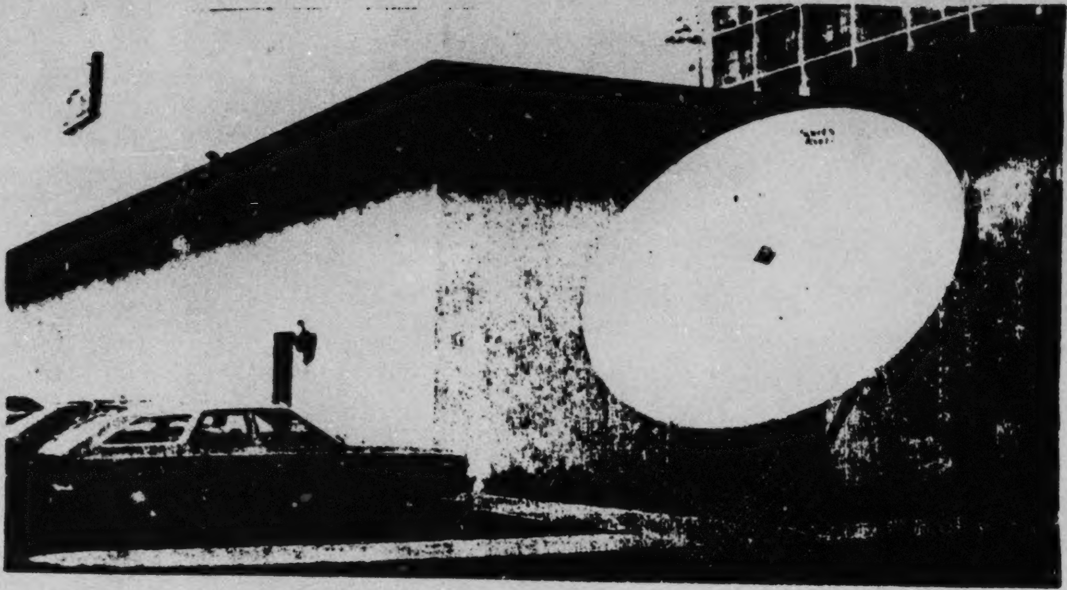


This is a picture of an RCA satellite. Tonight when you turn on your television in your room and you elect to watch a first run movie, that movie will be coming to you via satellite. This same satellite is also being used by the Appalachian Community Service Network to distribute programs in several of your states. This is one of two satellites that RCA owns and operates. Two others are scheduled to be launched in 1981. This illustration depicts a satellite in geosynchronous orbit. At 22, 300 miles above the equator, the orbit of the satellite is synchronous with the orbit of the earth so it appears to maintain a stationary position in space.

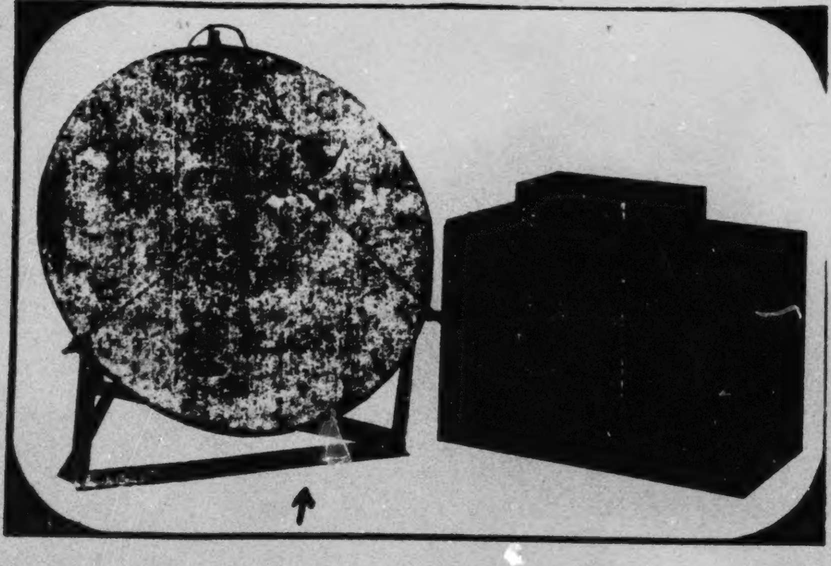


The ATS-6

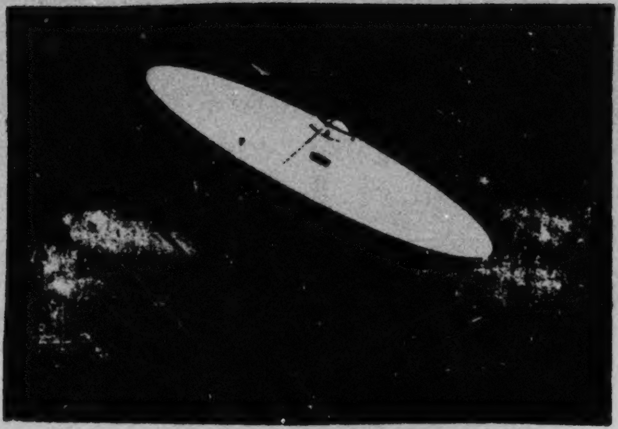
This is an artist's rendition of the ATS-6. Many of us were weaned on this satellite. It was launched in 1974 and was the first high powered satellite to be used in the distribution of public service programs in the USA. It was used in the Rocky Mountains, Appalachia and Alaska for a series of health and education demonstrations in 1974 and 1975. The Veterans Administration also used the ATS-6 to link 10 hospitals on the east coast. ATS-6 is also credited for the breakthrough in the use of small, low cost earth stations.



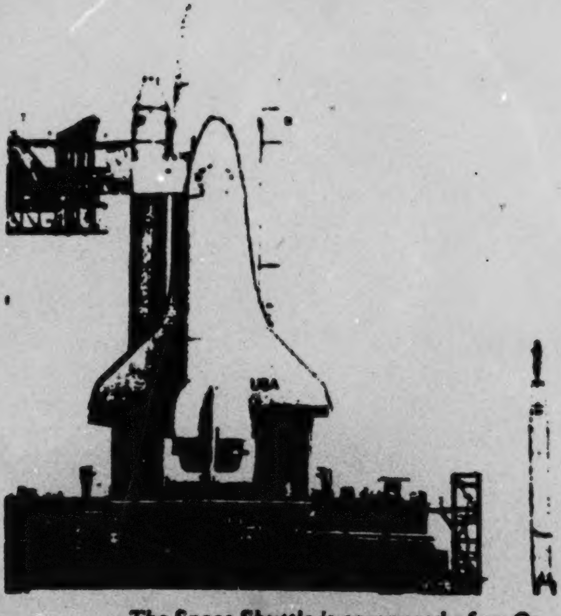
This picture is an example of a small earth station that is now commonly found at cable head ends and at many hotels such as this one. Several cable companies are now acquiring two earth stations that enables them to pick up signals from two satellites simultaneously and extend program services through their cable networks. I might add that new torus antennas are being developed that allow simultaneous reception from up to seven different satellites within a forty degree arc.



This is a picture of a small 1.0 meter earth station designed for direct broadcast service to the home. In time, many of you may have one of these small inexpensive earth stations on your roof capable of receiving a wide range of programs and services at home.

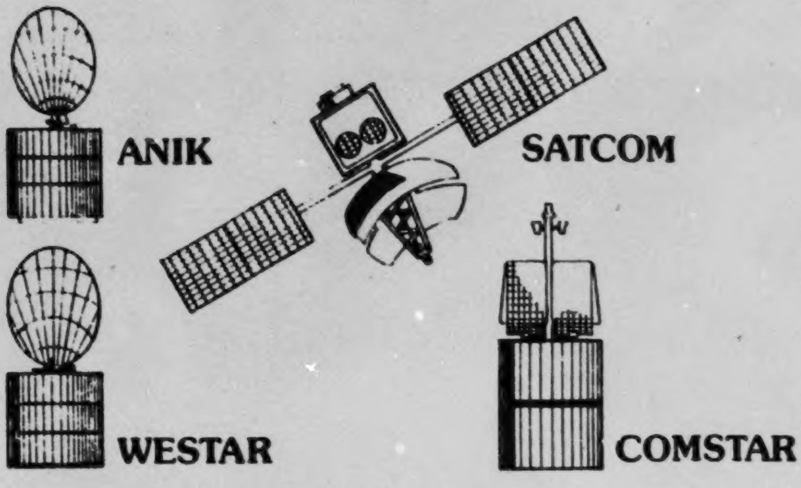


This is a 10 meter dish or earth station. Earth stations like this are located at public television stations throughout the country. The PTSS, operational since 1978, was the first national satellite distribution network.



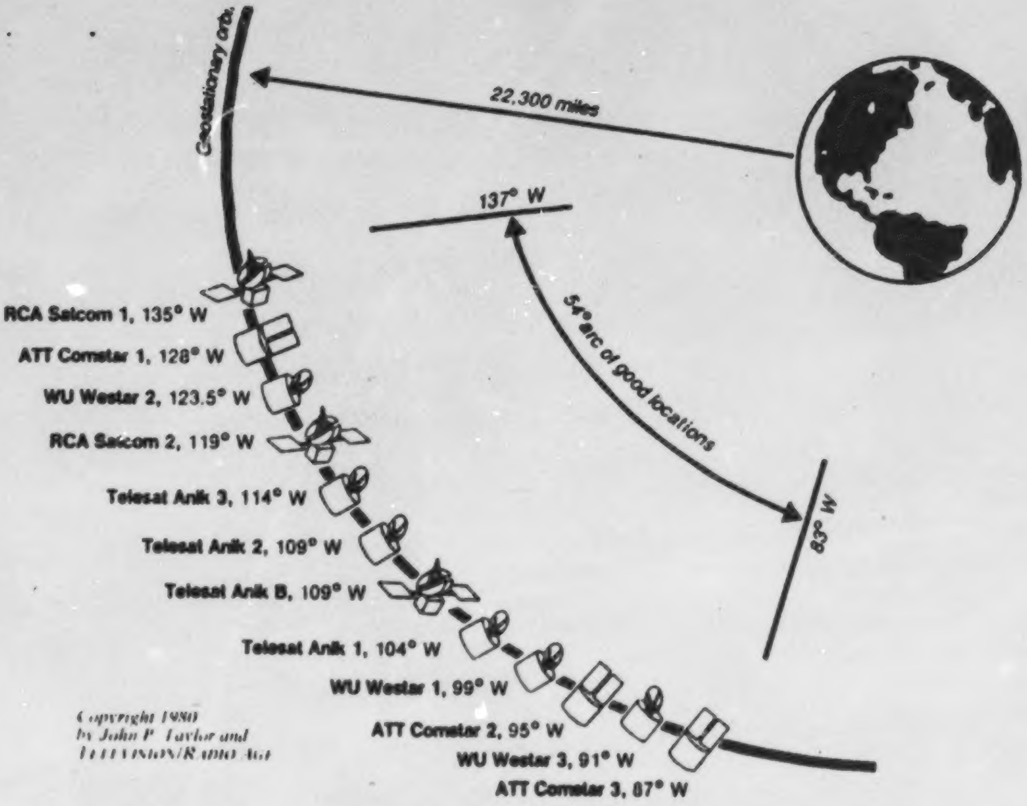
The Space Shuttle is composed of an Orbiter, External Tank (ET), and two Solid Rocket Boosters (SRB's).

The next breakthrough in space technology if we can ever get it launched will be the space shuttle pictured here. It is now scheduled to be launched in spring of '81. The space shuttle will enable us to build those space platforms I mentioned earlier.



Satellites for Domestic Communications

This illustration includes the four domestic satellites in operation in the western hemisphere. ANIK is a Canadian satellite, WESTAR is one of three Western Union Satellites. The public broadcasting services uses one of the three WESTAR satellites. RCA SATCOM was mentioned earlier. COMSTAR is a three satellite system leased by AT&T and G-SAT for voice and message service. When SATCOM III was not successfully launched last December, RCA leased 11 transponders on COMSTAR.


Geostationary orbit
22,300 miles
137° W
54° arc of good locations
83° W
RCA Satcom 1, 135° W
ATT Comstar 1, 128° W
WU Westar 2, 123.5° W
RCA Satcom 2, 119° W
Telesat Anik 3, 114° W
Telesat Anik 2, 109° W
Telesat Anik B, 109° W
Telesat Anik 1, 104° W
WU Westar 1, 99° W
ATT Comstar 2, 95° W
WU Westar 3, 91° W
ATT Comstar 3, 87° W

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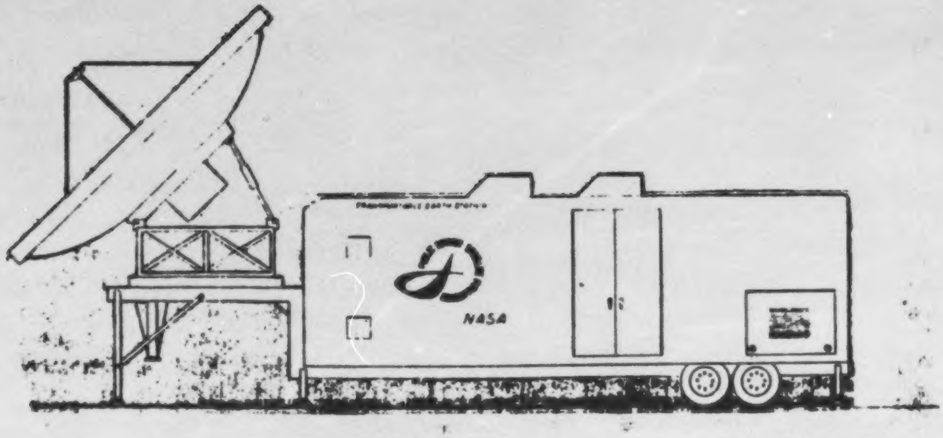
TELEVISION/RADIO Age

I talked earlier about problems with space and capacity. This illustration includes all the satellites in the orbital arc that covers the United States. As you can see, there are a limited number of parking spaces in space. As a result, we are experiencing a problem in space with parking. Satellites are parked no closer than 4 degrees apart. When you have a 70 to 80 degree arc in which you can see the U. S. and you have to share that arc with other countries in this hemisphere, you have a problem. Consequently some interesting discussions in regard to future satellites and where to locate them are taking place right now as to who gets what, when and where. The fact that FCC recently authorized the launch of 20 new satellites and approved the construction of 5 more, only compounds the problem of space in space.



TRANSPORTABLE EARTH STATION

This is an illustration of a Transportable Earth Station managed by the Public Service Satellite Consortium and available to public service organizations for satellite origination to or from any location. Origination or reception not from a commercial production facility, but from the customer premise is creating a demand for transportable earth stations.

One of the major organizations concerned with the application of telecommunications in the public service is the Public Service Satellite Consortium. The Consortium was created to assist the public service community in effectively utilizing advanced telecommunications through the provision of planning services, technical operating services, and information services. In the process of technology transfer in the public service, an understanding of basic requirements, major problems, opportunities and trends which will define any future course become paramount. The Public Service Satellite Consortium provides a forum to examine options in telecommunications which best manifest promise for enhancing the productivity of public service.

The PSSC is a member organization representing more than 100 public service organizations from very diverse disciplines - health, education, public broadcasting, libraries, state government, and others. We were created to inform the public service community about the capabilities of satellite technology, to act as a mechanism to aggregate communications requirements and resources throughout that community, and to provide the necessary expertise for successful application of this technology.

The National Satellite Network is the "operating" branch of the Public Service Satellite Consortium (as differentiated from our activities in consultation, studies and engineering). NSN is a unique, flexible, custom service which makes appropriate use of existing systems and hardware. Through the NSN we have assisted a number of public service organizations in the use of commercial satellites and earth stations owned by public broadcasting licensees, cablecasters, and common carriers. The NSN is an "end to end" nonbroadcast distribution service working with public service users from the initial concept to the delivery of the service.

What follows is an outline of selected educational applications PSSC has been a part of in the last two years:

- Telecommunications in lieu of transportation
- Delivery of continuing education programs and services
- Teleconferencing for planning, instruction, advisory, and administrative function
- Mechanism for introducing new and advanced training techniques
- Alternatives to workshops, conferences, and seminars
- Access to diagnostic specialists not in proximity to schools
- Mechanism for management information acquisition, storage, and dissemination
- Access to data banks, clearinghouses, and cataloging services
- Distribution of instructional programs and materials
- Provisions for inter-institutional communication and cooperation
- Access to mediated courses of study

For those of you who are thinking satellite allow me to share some thoughts regarding telecommunications that will impact on the use of satellite technology in schools:

- A public service telecommunications market in the field of education will not occur automatically; it will require nurture.
- The private sector will be reluctant to invest in telecommunications technology without evidence of a "critical mass" of public service users to recapture the initial investment.
- Economies of scale can, with sufficient lead time, foster the aggregation of public service user requirements and resources.
- Certain policies that inhibit expanded use of telecommunications in public service will need to be addressed.
- Further examination of existing and projected telecommunications capability, availability, and associated costs will be crucial.
- There must be evidence that facilities, equipment and capability will be available to ensure ongoing continuity of service.
- A concerted effort will be required to acquire, produce and catalog programs amenable to telecommunications.

In summary, the problem is one of marketing. Although recognizing the need in the field of education for telecommunications alternatives, we have been unable to make the right decisions because of institutional constraints. We continue to speak of multimillion dollar markets in the public service, but as of today we have no real handle on the situation. We have learned one thing. The key factor to developing a viable public service communication satellite market is aggregation but the public service and education in particular seems to defy aggregation. The technology is not the issue, it is the utilization and implementation. Francis Bacon said it best, "It would be unsound and contradictory to expect that things which have never yet been done can be done except by means which have never yet been tried." The technology is here and now, creative applications are not.

educational technology issues for public schools

HOWARD B. HITCHENS

I come to you representing one of the major failures in American education. I and several thousand other dedicated educators have been working for 30 years to introduce the best of American technology into American education and training. I realized I missed an opportunity when I arrived today and discovered who was in attendance and the questions I received. A lot of people have never heard of the Association of which I am the executive director. It is the Association for Educational Communications and Technology. It used to be called the Department of Audio Visual Instruction of the National Education Association. It is an organization that is dedicated to the introduction of technology into education. It is an individual member organization with about eight thousand members. There are several members in the room, as a matter of fact.

We feel that by nearly any measure you want to choose, we have had very little impact on the American educational system. The reason that we need to discuss it today is my firm belief that the future of American education lies in the area of technology. Most of you probably will dispute that claim. You think, perhaps, that there is too much television and other audio-visual communications devices and materials in use in the schools.

Most people equate educational technology with some sort of educational media. Therefore, they believe that if one is working with educational technology, one is in the business of making a prettier film, a better television show, a more efficient satellite transmission, etc. That is partially, but only partially, true.

The broad concept of educational technology has been around for some time. It has been in the specialized literature of the educational technology field for more than twenty years. There have been numerous federal government and other national attempts to stimulate the growth of educational technology. For instance, the 1968 Presidential Commission on Instructional Technology recognized that such a phenomenon existed. The Carnegie Commissions have successively recognized it. But, the field of education has been a bit slow. That, in itself, of course, is traditional for education - slow adopters of ideas and concepts.

Well, let's examine educational technology the way that educational technologists and the rest of the world (other than most educators) look at it. We find that it really is more process oriented than things oriented. Instruction technology is a systematic way of designing, carrying out and evaluating the total process of learning and teaching in terms of specific objectives based on research in human learning and communication and employing a combination of human and nonhuman resources to bring about more effective instruction.

There are some characteristics of technology in general which apply to educational technology and which, interestingly enough, serve to identify some of the resistance of educators, especially teachers, to educational technology. First, technology presumes a division of labor based on differing tasks and different skills. Examples are all around us. Look at the medical profession in which you have the growth of such specialities as anesthesiology, surgery, etc. Second, technology assumes some sort of result of a somewhat visible process. It is the application of science to human work. It would be tough to apply it to magic. Third, technology assumes some methodical or systematic approach to getting the defined and desired result. It assumes the application of theory to actual practice. Fourth, technology needs a broad base on which to work if it is to become economically feasible. Automobile production is one example. The mass media is another. Technology can be used effectively where there is no practical cost benefit, the lunar landings for example. But, you had better have a lot of money to spend. Fifth, technology is process intensive. The process is the key - not the gadgets, not the people. They are interrelated, but the key is the process. Turning to medicine again, for example, a physician can set a broken bone with or without special devices and instruments, but many of us tend to think that the devices and instruments make up the technology. Well, that is the way we see it.

Why isn't it applied more readily in public education? Well, before I discuss a list of separate or specific inhibiting factors, let me talk about a couple of general assumptions which we make in our society and which tend to work against the introduction of technology.

The first assumption is that, because our culture, in general, welcomes the introduction of technology and facilitates its use, we tend to assume all of the subcultures do the same. Well, it doesn't work that way. The basic structure of the subculture isn't the same as the larger culture. The historian of technology, A. Rupper Hall, once put it this way, "Scientific knowledge is of little material value if the object of technological proficiency is the manufacture of objects of luxury. Hence, in backward, contemporary societies the arbitrary installation of a few modern industrial plants without modification of the basic economy has little more result than to allow the rich to adopt Cadillacs and television in place of more barbaric means of ostentation."

My colleague, Bob Heinich of Indiana University, maintains that, for the most part, educational technology falls in the category of luxury. Or at least it has fallen in that category in the past. Perhaps this conference will persuade us all that this is the wrong assumption. Heinich's second assumption is that we in education like to think that people act on the basis of what we know from research. However, the successes and failures of instructional technology aren't related to research. Dr. Sam Postlethwaite developed his audio-tutorial system of instruction and sciences at Purdue University not because of what he knew about behaviorism but because he had a need. Again I am told that if Robert Fulton had waited for physics research to catch up to his invention of the steam engine, we would never have had a steam boat. Well, I am being rather simplistic, and there are exceptions, but the basic assumption still holds.

Why isn't technology accepted and more used?

1. Current instructional practices are labor intensive and there is a strong teachers' labor union movement. In addition, the general superstructure of the educational enterprise within our social system tends to inhibit the introduction of technology. Let me cite a complete case study which occurred at Addison Trail High School.

"In the fall of 1971 Addison Trail High School had one more typing class than the staff could teach. After clearing the procedure with appropriate county and state officials, the high school started teaching the extra typing class by closed circuit television with a pair of professionals overseeing the TV class. The local teacher association protested the action to the State Department. After due deliberation the State Department notified the district that it could continue the class for that school year, but it would have to stop at that time. In the meantime the State Department would obtain a legal interpretation on the use of teacher aides. The following June the State Department notified the high school that the legal interpretation prohibited use of noncertificated personnel in a situation requiring instructional judgment or evaluation unless under the immediate supervision of a certificated teacher. Immediate supervision was interpreted to mean in the same classroom. Note that this was a legal interpretation by the state not by a court. The district continued negotiating with the State Department with some success. In June 1973, one year later, the State Department reiterated that the definition of supervision in its formal legal opinion number eight did not extend to the use of noncertificated personnel as described in the high school's proposal.

However, the State Department went on in the next sentence to apprise the high school of new state regulations approved in February of that year regarding the use of noncertificated personnel. Under the new regulations the State Department was able to approve the high school's program for the '73-'74 school year. Two provisions in the new regulations enabled the high school to continue its program. First, immediate supervision was redefined to mean continuous management of the teacher aides' activities. Second, the qualifications for a teacher aide included the stipulation of at least 30 semester hours of college credit. The individual who had been used by the district attended college three years. By satisfying the immediate demand, the State Department, in effect, kept the innovation localized and eliminated the need for the district to use. Although the district could have sought redress from the courts, the district was not interested in pursuing a point of law. It simply wanted to teach a class by TV. Because the legal question wasn't settled in court, the June '73 letter from the State Department begs the question. If another high school in Illinois wants to introduce a similar program, will the State Department follow the legal opinion number eight or the February 1973 regulations? So, the superstructure inhibits the introduction of technological solutions to its structional problems."

2. There is an issue of local control of education. While there are probably some differences in curriculum from community to community there probably isn't a lot of it. People who do encourage their children to watch Zoom or Sesame Street from the television networks often protest about the loss of local control of their schools. They lose sight of the fact that in a broad based technology there are still options for local control, often, more options than possible locally without technology. As a matter of fact, such systems as the Cube Cable System in Columbus, Ohio, can provide more than 30 channels of information available in the home. We are on the verge of nearly limitless possibilities for alternatives in these complicated delivery systems.

3. The existing system does creep along. It may take a total collapse of the present system in some places before a new mode of instruction can be developed! What if, for instance, a school district didn't close down during a teachers strike, but relied on supervisory personnel and specialists in mass communications media, on tutors visiting homes, on local libraries, on the mail, on the local newspapers for instruction? There might just be a little or no significant difference in learning, on the average, to use research terminology. I am sure that many of you are familiar with what occurred in Columbus, Ohio, with the energy shortage and severe blizzards in the winter of 1976-1977. The schools did not stay open and instruction continued, even then, through the intervention of imaginative educators using the television stations and newspapers for instructional delivery.

4. It takes inestimable courage to try something new. There is no doubt about it. Until we devise a way of allowing some experimentation without the great risks to students or to teachers, we will have

to wait for the collapse to start something new.

5. A science of instruction doesn't yet exist. This, of course, is an inhibiting factor. But it also is a ready excuse for those of us in education who don't tolerate or accept change. Remember Fulton! Seldom in history has technology waited on a fully developed science for its own development. The automobile and the airplane are other good examples.

The great misconception about the advent of technology into activities is that there is some sort of thunder clap and it happens, instant technology. This has happened in our past history, for instance, during war time, but it is much quiter in times of peace. Think a minute about nuclear reactors for power stations. There is a lot of controversy about the nuclear technology but, in fact, about nine percent of the electricity in this country comes from nuclear generators. This was a very quiet introduction of technology until very recently. This quiet revolution is already occurring in educational technology, but it is extremely quiet.

Let's look at the two major communications media with which this conference is concerned, if one looks at the program, and see what's happened to them.

TELEVISION. In the last 30 years in television we have developed about 270 public broadcasting stations, all of which provide some instructional service for the formal schools and colleges. A rapidly growing means of providing television is through cable delivery service, directly into the homes and into the schools. In addition, there is a long standing capability of microwave transmission called Instructional Television Fix Service, ITFS. You have some of that in Florida. It is highly directional, allowing a television signal to be controlled so that it is not radiated generally thoughout the community but is sent from one building to the next just as though the signal were being transmitted through a land line. There are currently 500 channels of ITFS in operation by 100 licensees. To date, cable television is serving nearly 20 percent of the households in the United States, more than 13 million homes. In addition, there are between 700-1000 closed-circuit television systems operating in educational institutions that range in size from a simple camera, recorder and monitor in a single schoolroom to a county-wide system such as was developed in 1956 in Washington County, Maryland. Video recording has grown to the point that there are probably about a million video cassette recorders sold each year. I know there were one half million sold in 1978. These video recording devices are under constant improvement and the current fashionable device is the video disc, which you've heard about. It seems to promise an efficient and cost-effective means of providing relatively inexpensive educational programming wherever a television receiver can have the disc-player added to it. A good example of video disc employment is a project currently nearing the distribution phase which has been mounted cooperatively between the National Educational Association, surprisingly enough, and the American Broadcasting Corporation. In this project several teaching modules will be available to teachers on video disc along with video disc playback units that will be provided by the network. The project is remarkable, also, because of the fact that it involves one of the three major networks in providing informational service in a means other than broadcast, a project which may spell trouble in the months ahead for the continued profitability and power of the broadcasting industry.

Is instructional television used in the elementary and secondary schools? Yes. The best survey information we have indicates that more than one-and-a-half million of the elementary and secondary school teachers in the United States have television programming available to them. Approximately 30 percent (or 726,000 of those teachers) use instructional television regularly. Approximately 30 percent of all educators, administrators as well as teachers, have had training in the use of instructional television. More than 50 percent of all educators surveyed in the United States three years ago had a positive attitude toward instructional television. One major finding in that same survey was that broadcast schedules are a major hindrance to teachers' use of television. This, unfortunately, is one of the factors leading to the development of such alternative ways of providing instructional television as off-air recording for more convenient use and the growing use of videotape and video disc.

How are teachers using it? Well, their preferred uses from that survey are: 1) to extend the range of experiences available to students, 2) to permit individualization of instruction, 3) to present subject matter more where there isn't a special teacher (music, foreign language, etc.), and 4) to serve as a suitable teaching alternative in emergency situations (school closings, long-term teacher absences, etc.).

MICROCOMPUTERS. Let's look at microcomputers quickly. While not yet as pervasive as television, the microcomputer is probably the fastest growing capability being introduced into the educational system. There are approximately one million microcomputers sold in this country each year. The field is growing so rapidly that it is very difficult to find accurate information. The uses range from simple serial learning repetitive drill by the computer to very sophisticated simulations. How will the cost and power of microcomputers unfold during the coming decade? Well, I wanted to give you a couple of ideas from Joe Lipson of the National Science Foundation. He says the cost will probably stay the same: the price of about $600 per microcomputer will not be reduced much. However, we will have continually increasing computing power in inexpensive microcomputers at around $1,000 each. There is an estimate that we will continue to double the computer power every two years. I think this will make a difference as the power increases.

What can we do to make educational technology more accepted? What can you do? And this is my message to you. Joe Lipson of National Science Foundation argues that there need to be at least two factors in the introduction of technology. First, he argues that there is the need for social inventions to continue. An example of a social invention is the development of the land grant college, for example, which unlocked tremendous forces of creativity in the United States. Another social invention is consumer credit. Those are the kinds of things he envisions when he talks about social inventions. Rhetorically, let me ask, could there be similar changes in how we conduct our educational affairs that could unleash the power of the computer in education?

Second, Joe Lipson argues eloquently for the need for attention to the organizational structure if we are to improve education. Let me quote a paragraph from him:

> "It seems reasonable to me that, to be effective, organizational structure [in other words, how we make working units for people, how units report to each other, how we allocate resources among units] should reflect the dominant technology that is being used by the organization. I would claim that our schools, as reflected by disciplinary departments, teachers in classrooms, and the way we allocate resources, helps people to be effective with the technology of the blackboard, the classroom, and textbooks. And I think the organizational structure of schools does amazingly well in helping teachers to be productive with that technology: classrooms, blackboards, and textbooks."

A characteristic of the traditional technology, is in contrast to the production of a computer-based course, that very little front-end investment is required before you have something to present to the student. If we're going to use some of the newer technologies I would argue that we need to rethink the organizational structure of our educational institutions. We'll probably have to devise some new organizational structures in order to eliminate the undesirable biases in the structure of education. We need to examine those biases carefully to see what kinds of changes would be advisable and necessary in order to change the rules of the game, so that technology can operate and compete successfully. Fashionable and prevalent sophisticated hardware does add pressure to the educational system and does provide the potential to make alternative modes of instruction available. We must also continue the job of reporting the results of research and developing applications of what we learned. However, the new technologies or systems based on new technologies are not necessarily proven or disproven by one-shot experiment. Finally, we need to create an environment that finds the products of technology both useful and desirable in education. If we don't create that environment, the products of technology will probably remain objects of luxury, and the educational system won't be able to afford the luxuries of the future.

Some visionaries have depicted the future as including a heavy dependence on the electronic media toward the end of this decade. Let me close by quoting the vision of David Snyder, a consulting futuristic, with whom some of you are familiar. He has said there is a 50 percent probability that in the period at the end of this decade, and I quote, "Education will increasingly be provided via electronic media and small computers in the home, starting with adult education, but gradually incorporating secondary and primary curriculum. Neighborhood schools, in turn, will increasingly serve as a local resource and community extension service centers, providing career counseling, educational testing and guidance, individual and family self-help programs, laboratory and other hands-on problem-solving classes for adults and children. Many are staffed 24-hours a day," in his vision of the future. Those who share Snyder's vision of the future are the educational technologists, the people who believe that technology is the most reasonable, humane, and promising form of instruction and that it must be introduced into public education in the United States. I ask you in the Southeast to join with us in the educational technology movement to create a major success story for American education. A success that will ensure public education's fundamental role in our nation's future.

BIBLIOGRAPHY

Frederick, Franz J. Guide to Microcomputers, Association for Educational Communications and Technology, Washington, D. C., 1980.

Heinich, Robert. "Implications of the Expanding Use of Educational Technology in Education and Training," from Professional Development and Educational Technology, Association for Educational Communications and Technology, Washington, D. C., 1980.

Lipson, Joseph. "Microcomputers Applied to Education," from Professional Development and Educational Technology, Association for Educational Communications and Technology, Washington, D. C., 1980.

Snyder, David P. How the Eighties will Change your Life, Presentation to American Society of Association Executives Meeting, August, 1980.

Survey of ITV Utilization in the Public Schools, Corporation for Public Boardcasting and National Center for Education Statistics, Washington, D. C., 1977.

Wilkinson, Gene L. Media in Instruction: 60 Years of Research, Association for Educational Communications and Technology, Washington, D. C., 1980.

why think about the future

DENNIS LITTLE

You have to take a little test. The test is very simple, but all have to participate. How many of you read a newspaper at least once a week? Well, that's pretty good, the majority of you by far. How many of you can count from one to ten? A few less hands, but we're still doing very well. How many of you had read at least two out of three of the following or have had it read to you: Goldilocks and The Three Bears, The Three Little Pigs, and Little Red Riding Hood? We're doing very well.

On the paper in front of you, I want you to write the following numbers in the order that I give them to you. Eight, five, four, nine, one, seven, six, three, two, zero. What is the logical basis for the arrangement of those numbers? The logical basis for the arrangement of those numbers is that they're arranged in alphabetical order.

All of you can count from one to ten. All of you have the same information base, but none of you could solve that particular problem. Yet, you had all of the elements there to solve it. That is what we want to do with this conference, to take existing patterns of information, as well as new patterns of information, and look at them from different perspectives to see if we might try some approaches to the problems that confront you each day and to see if we could, perhaps, get ahead of some of the problems so we can become more proactive instead of reactive.

Why do we look at the future? We look at the future because it's fun, it's exciting, it's nice to talk about jet packs and home vacuums that you press a button and all the dust gets sucked up automatically. It's a diversion from the daily. The main reason that we look at the future and the essential need for a conference of this nature, is that the future is the only thing that you can do anything about.

We're looking at the energy question. When we get some presumably energy solutions, when do we begin to see the impact of it? Ten years down the road for fuels. Solars, they're talking about beginning to see real impact in the year 2000. You can get little increments in little bits and dabs. How long does it take, on the average, for an urban renewal project? About ten years. Look at the time it takes to forecast an increasing number of students and the need for new facilities, to having those students into place and into the new buildings. Look at the cost of new systems, the cost of conventional versus solar. We make that decision.

The controller general of the United States says that it takes at least five years after a decision has been made for the legislative process on the national level to begin to bring about substantive change. Now, we know, even on the state level, states do better. They're closer to the people. Will Rogers used to say, "The further I get from Washington, the more confidence I have in the American people." I'm not sure that he was that far off from 1980.

If it takes at least five years, what do we do as traditional educators, traditional designers of systems? We, of course, must feedback to our chief operating officers, to our legislative body, data at the end of one year. How do we use that data at the end of five to ten years? Congress has created a Congressional Clearinghouse on the Future. Congress has passed legislation that requires each committee of the House, with the exception of budget appropriations, to do futures research and forecasting on a continual basis.

There are certain assumptions that one must consider when having a conference like this. One is, very simply, that all decisions are made with an image that all decisions are made with partial, fragmentary and incomplete information. This is the result of the narrowness of the disciplines from which we are taught. Two illustrations of this follow. In physical sciences, which should be the most exciting of all, Jacob Pronowsky in his wonderful book, The Ascent of Man, pointed out that the 19th century physical scientist was rewarded for proving the immutability of physical laws. The 20th century scientist is rewarded for proving the mutability of physical laws. In history, which should be the other side of the coin and the most exact, we know that Arthur Schlessinger, Jr., before the Kennedy White House time had been writing The Age of Roosevelt and he had gotten up to Hewey Long. He came out of the Kennedy White House, and what did he do? He began to read contemporary histories, and he said, "That's not true. I was there." And he said, "If that's not true, and I was there, how can I write history from secondary sources? I quit." He stopped after the third volume, which was selling in 1961 at $10.95 a volume. What does that mean? It means that when we look at the future, we cannot know everything about the future. We will be forced to make decisions with partial, fragmentary and incomplete information.

The third point is that I can tell you nothing with certainty about the future. My job title is Specialist in Futures Research. The weeks before the election and you were a futuristic, you would be asked, "What can you tell me about the elections? Who's going to win? What can you tell me about the stock market?" Well, those were short-term forecasts, so we just sort of waved them aside, because you're really dealing with the period that you can do something about, zero to five years. But, let me tell you why the accuracy question is not important. Suppose I tell you that two airplanes are in flight patterns, that if they continue, they will collide. What's the value of the forecast, the collision? No. The value in the forecast is whether or not you can intervene in that system in time to reduce the probability of the collision.

The fourth point in understanding a conference on the future is that there are series of long-term trends occurring and that you can influence their direction, their consequences. For example, some of your school districts are experiencing a declining enrollment. Because of the large number of births that took place during the "baby boom," even though the birth rate is down considerably as a nation, we're going to experience about three and a half million births this year. Most of them, I expect, are going to be experienced in sunbelt areas, which includes, of course, the South. Some of those school districts that you have considered closing are going to have considerable possibility of having to remain open or to be reopened or to seek new facilities. Another example is women in the work force. Fifteen million women have entered the work force, above and beyond what they were, since approximately the end of World War II. Most of those are mothers. Most of those are married. An additional 11 million women will enter the work force between now and 1990, that number may be conservative. Of that, roughly, three million of them will have children under the age of six; roughly, five million plus will have children between the ages of six and seventeen. What does that speak to the hours that the school is open? What does that speak to in terms of the school days, with the sharp rise in the number of single-parent families having risen over the last decade from 11 percent to 19 percent? What does that speak to the role of the school in transmitting basic values?

Now, we ought to just touch on a few disparate points. We have talked about new technology in this session. We have talked little, if at all, on how it might be financed. This is the type of thing that I think a conference of this nature should consider. The English place a small tax on the sale of each TV set to pay for BBC production. In Germany, the mail system owns the phone system. And very much like the United States, the mail system loses money, but the phone system makes a great deal. The Germans are planning to invest their huge surplus in various instructional technologies in the needed course development. Since our informal educational system has expanded considerably to include TV, radio, phone, records, cassettes, tape recorders, why couldn't we place a small educational sales tax on each of these items with persons over the age of 65, for example, being exempted? How are you going to get the funds to get these technologies when you're either growing faster than you're getting a tax base or you're asked to do more with less? In either event, it comes out that it's very difficult for there to be any winners.

I would like to share something to help probe you into thinking beyond your normal extrapolation thinking which is that tomorrow will be very similar to today. I went back to some newspaper articles that spoke about the fifties and the sixties. In the fifties, there were forecasts by some of our leading scientists that energy might be free because it would be in such abundance due to nuclear power. Inflation was projected to be at the rate of two-four percent a year, at most. The school systems, particularly the higher education systems, would continue to expand, because there certainly would be jobs and managerial positions for all.

All I want you to do is to consider curriculum designs that emphasize win-win situations and philosophy. We've been raised on the musical chairs philosophy; that is, everytime the music stops, somebody pulls out the chair and somebody doesn't have a place to sit down. It's been small banks; it's been school districts, in some cases; it's been small farmers in other cases, but it doesn't matter. It's always somebody else who loses the chair. Systems have become so interconnected that I'd really like a place for me to sit as well as my grandchildren.

The budgetary process is illustrative of what I mean. Some people have run studies that show that if we hold everything else constant, and we know change will be there, the portion of the federal budget devoted to the elderly in about 2020-2030 will be approximately 40 percent of the total budget. When you add to that defense and you add to that whatever else you would like based upon your personal preference, you don't see much room for education funds.

I'd like to see you emphasize curriculum that emphasizes uncertainty and the lack of absolute answers. Remember, I asked you about Goldilocks, I asked you about The Three Bears and I asked you about Little Red Riding Hood. What happened in each one of those cases? We always knew the answer. We always knew how it would turn out. There wasn't the risk that we'd turn the page and Goldilocks would be eaten. The only new version of The Three Little Bears that you see is one where the bear now has a stepmother, and that's what leads us into the 21st century.

We are taught our hierarchal systems want to be brought the correct answer, not an answer that will be 80 percent probability. Our system wants the right information. Yet, we know with the interconnectiveness in our systems and with the assumptions that I laid out for you that there is nothing that we can tell you with certainty about the future, and that's what your policy is being formed for. We, therefore, want some of the risk takers that we have here in the Southeast to design systems both inside of our bureaucracies and our educational institutions to recognize failure and success. If we are going to live in a world of uncertainty, we are going to have to accept risk.

The final point that I will make is that you are going to have to insist with those who are receivers of the education that greater emphasis be placed on science and technology in the curriculum. The reason for this is simply you are not going to have any funds for education at the local level, if you do not. Now, that's absurd, but it's, in many cases, true. We are now spending as a nation 10 million dollars an hour, 240 million dollars a day, and 90 billion dollars a year for imported oil. We will spend this year more than the combined assets of General Motors, General Electric and Ford on imported oil. If one adds up all of the earnings of the Fortune 500 corporations, it is less than we spend on imported oil.

Is this crisis understood? The answer is absolutely not. I spent a week with the International City Managers Association, which was a handpicked group of thirty, to look at the future of cities. Statistically selected from around the country, representing the Southeast as well as the Northeast, the West, every place, and they were asked the question, "Will we face an energy deficit in the mid 80's to the late 80's?" Twenty-nine out of thirty hands went up. They were asked the question, "Do your citizens think that we will face an energy deficit in the mid 80's to the late 80's?" One hand went up.

On a national average the cost of heating and cooling Johnny and Suzie on a per capita basis in elementary and secondary schools has risen from $20 a head in the early 1970's to roughly $57 in 1977, to an estimated $200-$280 in 1985. Only the range of the number is disputed, not the number itself. A recent report released last month by the Department of Education and the National Science Foundation entitled Science and Engineering Education for the 1980s and Beyond stressed the fact that those who are not receiving a science and technological education that their preparation is totally inadequate to live in the world in which they will be placed.

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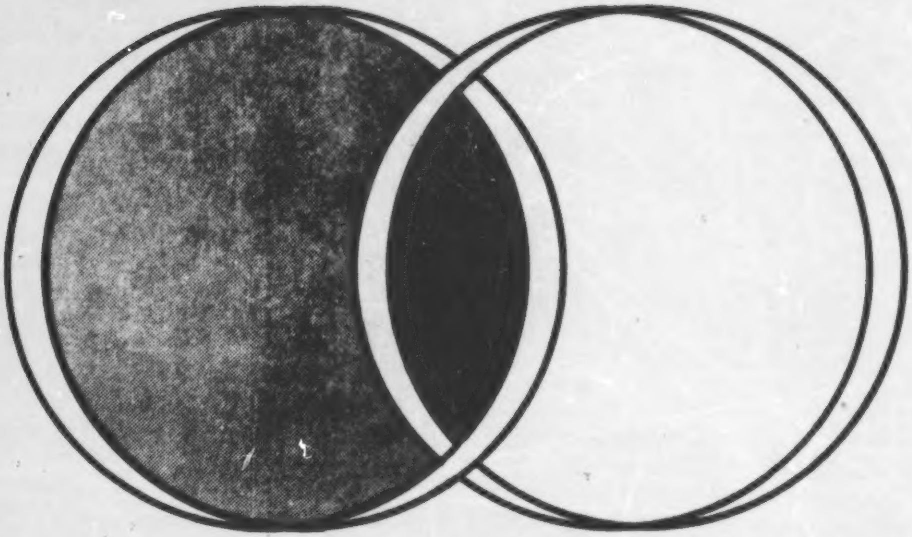

educational policy issues of the 80's

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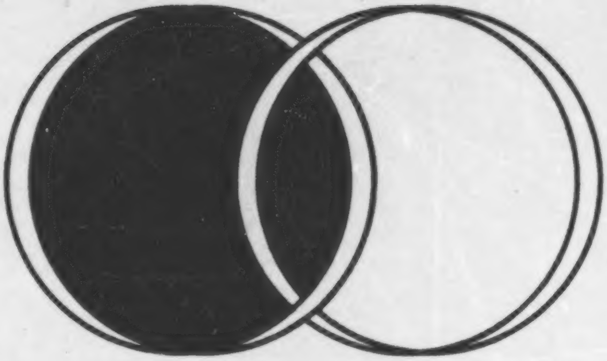


a forecast of critical educational policy issues facing policy makers for the next ten years

a forecast of critical educational policy issues facing policy makers for the next ten years

PHYLLIS BLAUNSTEIN

I am going to talk with you today from the perspective of the constituents of the organization that I represent, State Board of Education members. I am very happy to have the opportunity to be with you for this Second Conference on the Future of Education in the Southeast. I think that this is a very unique undertaking that the people in this region have started and I hope that there will be third and fourth annual conferences as well.

My talk today has three major parts. First, I'll discuss changes in society in the 80s, second, the implications of these changes, and third, the questions that educational policy makers will have to address.

America's children deserve the opportunity to achieve their full potential. The extent of that future realization depends upon the ability of policy makers to frame the educational issues of the 1980s with sensitivity to their subtleties and understanding of their complexities. To do so, decision makers must carefully consider both the anticipated and the unintended consequences of difficult policy decisions. These issues will be defined and the choices made in a context of constant change in this decade. This will require appropriate adaptation of policies, programs, and practices.

Currently, public opinion polls cite dissatisfaction with American education. You have heard all of the statistics and you know all of the data from the recent Gallup Poll. They indicate a general decline of public confidence in the way schools are handling problems related to drug abuse, discipline, curricula, financial support, and busing. In many cases, the education community reacted defensively to such criticism, asserting that education has become the custodian for all of society's problems. There is built-in failure, educators maintain, given such expectations. The education community has begun to feel battered by forces charging that teachers' unions no longer have children's interests at heart, that we're not spending education dollars wisely, that quality education is something only our parents or grandparents remember.

We who are concerned with educational decision making must examine the reason for this reported decline in public confidence and seek corrective action. We should look to the 1980s as a time to be visionary, to reconceptualize the basic issues and reexamine the goals and practices of our educational institutions in light of our changing world. This is a time for us to take a critical look at what lies ahead and ask the hard questions. And frankly, what worked for us in the past may not work for us in the future. Educational policy makers and decision makers have responded to changes in society before. There is no reason why we cannot continue to do so. The change process is virtually the same. The major difference is that changes are occurring much more rapidly than ever before. Our challenge is to foresee these changes and to adapt to them in a timely and appropriate way.

What I would like to do now is to move into the first part of my presentation, looking first at the back-drop of changes against which the crucial issues will be drawn - changes in demographics and in economic, sociological and technological patterns. Then, I will present several significant policy issues that will require creative thinking, systematic planning and deliberate decision making on the part of educational leaders in this decade.

Let's look first at nine societal trends. First: American women are having fewer children than they have had in the past. In the ten largest cities in the United States last year, 50 percent of the live births were to unwed mothers 17 years old and younger.

Second: Despite declining fertility since 1965 the number of preschool children under the age of six with mothers in the labor force increased by 65 percent as more women were engaged in paid employment. It is predicted that in the 1980s women increasingly will enter the work force as our inflationary society requires more than one income merely to survive.

Third: Forty-five percent of all marriages end in divorce. Fifty percent of the children will spend at least part of their childhood with a single parent. A recent study conducted by the National Association of Elementary School Principals shows that students from one-parent families in both elementary and secondary schools consistently are more likely to be late to school, truant, low achievers and subject to disciplinary action than are students from two parent families.

Fourth: America is rapidly aging. The United States median age is rising two years every decade. It is predicted that the post-65-year-old population will rise dramatically from only 10.7 percent of the whole in 1976 to as much as 22 percent in the year 2030. From the viewpoint of public expenditures this aging population is roughly three times as expensive in terms of per capita expenditures as is per capita expenditures for youth. By 1995, there will be more people over the age of 50 than there are children in the schools. For every three persons paying Social Security, one will be drawing benefits. And, further, in 1980 only 28 percent of the voting population will have children enrolled in the schools.

Fifth: Hispanics, blacks, and Asiatics represent a much larger percentage of the population than ever before. Northern and Western Europeans, who at one time made up 95 percent of our population, today represent only 7 percent of the legal immigrants entering our country. Undocumented workers in the United States are currently estimated at between two and twelve million persons and we're likely to continue experiencing large new waves of immigrants. Statistics show that these immigrants, both legal and illegal, are young, have larger than average families, have little or no knowledge of English, and are unfamiliar with American culture.

Sixth: Private school education has grown considerably in recent years, principally from the white and middle-class families who traditionally have provided the political and fiscal base for education. According to Education Department figures, private school attendance is five times higher for students from families with incomes over $25,000 a year than for children with families whose incomes are less than $5,000. What does this mean? The public schools, especially those in urban communities, are becoming schools for the poor and minorities, and we don't serve them well. Since schools, by and large, are organized to serve the interests and experiences of middle-class mainstream children, many students from minority and poor families become disillusioned and dropout. The problem is compounded by the fact that the parents of these children lack sufficient political power to influence public policy.

Seventh: The economic picture is changing as well. Increasing fiscal constraints at the federal and local levels will place education in a weakened political bargaining position for greater funding. This is an argument discussed by Michael Kirst, who is a member of the California State Board of Education and a Stanford University Professor. He says there will likely be a larger share of policy making and control of education at the state level. This shift will challenge the creativity of state policy makers to simultaneously accept additional responsibilities while they attempt to preserve the responsiveness of schools to community needs. Dwindling financial and natural resources are beginning to exert real pressure on us to consume less, to conserve more and to consider the impact of resource allocation on economic growth, the environment and lifestyles. Greater concern is being expressed by average taxpaying citizens about school finance and the wise expenditure of their public education monies.

Eighth: Technology is also changing our world. Communication is becoming instant and inexpensive. Information will be transmitted and received increasingly through electronic, tele- and video communication. New energy technologies are being created. Coal will be converted to synthetic gases and liquids which will replace oil and natural gas. We will increasingly rely upon solar, geothermal and wind as energy sources. Deep-sea mining of rocks below the ocean's surface may yield copper and sufficient amounts of manganese, nickel, and cobalt to reduce dependence upon other sources. All these technological advances mean that the world of work is changing. Jobs in general are becoming more complex and in some cases even obsolete. Skill training must keep pace.

And Ninth: Sociologically speaking, many of our historically stable institutions are undergoing radical transformations. The family, home, church and community no longer necessarily represent permanence in education. With greater frequency young people are being socialized through the media, through day-care providers, and other agencies outside the home.

What do these extensive changes mean for policy makers? All of these demographic, sociological, and technological changes obviously have implications for American education. 1) There will be continued federal, legislative and litigative emphasis on equality of educational opportunity for all individuals. 2) Every individual will have to be able to read, write, compute, reason, and be able to relate to others in order to have any hope for successful employment. 3) The teaching-learning process will increasingly utilize interactive computers and television programs and will be less dependent upon the school building as the focus of all learning. 4) As Hispanics and other minority groups begin to comprise a larger portion of our population, bilingual and multicultural education will become increasingly important. 5) Fiscally, education will compete increasingly with the human and social services needed by an older society. 6) Transition from a consuming to a conserving society will require a greater understanding of economics and the interdependence of mankind. 7) Economic constraints will result in public demand for more coordination of services among schools, colleges, libraries, museums, community services, and school and civic organizations. 8) With more mothers working, there will be an increasing need for child-care services. 9) Adult retraining will be required repeatedly during a lifetime. Lifelong learning will be both necessary and sought for both vocational and avocational purposes. 10) In the effort to provide a better transition from school to work and to prepare young people for adult careers, not only will schools play a more active role but so will a new group of educators - community-based organizations, proprietary schools and business and industry. 11) Business and industry will become far more concerned about workers' welfare, learning and leisure.

We have talked about changes in the 80s and the implications of these changes. Now let's turn to the policy questions. It's one thing to recognize the sweeping changes taking place in our society and accept them. It's quite another thing to pose the critical issues and make the difficult choices that mean the difference between the dynamic education system which prepares students for a realistic life in a changing world and a closed static system that meets the needs of no one.

What are the implications of these societal changes? It's likely that education decision makers will be asking questions like these in this decade. 1) How can we achieve equality of opportunity without sacrificing excellence of achievement? 2) How can we effectively promote growth for all students without sacrificing efficiency in educational management? 3) Do we have the resources to accomplish federal legislative and litigative mandates? 4) Should some of education's surrogate roles be reassigned back to parents and others? 5) Can mainstreaming of exceptional students be effectively accomplished through accommodation, modification, and retraining of personnel? 6) Is the "normal" student being left by default to fend for himself or herself? And finally, 7) How can the educational community make the necessary changes to relieve its burdens without eroding its basic value and role?

I'd like to focus for just a moment on the first issue. How can we achieve equality of opportunity without sacrificing excellence of achievement? This issue slices through all layers of government and all layers of decision making. Given the changes just described, issues of equality and equity may not be considered apart from educational equality and this is precisely the dilemma we find ourselves in. To provide the nation's youth with viable chances to achieve their full potential, policy makers will have to develop a decision making framework that integrates seemingly dichotomous dimensions. Either/or conceptual frameworks may need to be rethought in more inclusive terms. Issues of pluralism versus consensus, individual needs versus uniform rules, diversity versus community, citizen involvement in decision making versus the centralization of policies and authority, these all must be resolved within that framework. There will be an increasing need for the participation of lots of people - families, community members, students, and lay governing boards - in the creation of sound educational policies designed to insure both equity and excellence.

The critical elements in the successful implementation of these policies are restoring the perceived lack of leadership, removing the credibility problem, and renewing a sense of trust between and among decision makers. We must view the future through wide-angled lens to incorporate more actors, outsiders who bring a variety of experiences, insiders who offer intricate expertise, inventive minds, talented individuals with courage, insight and independence of judgment. These participants are all needed if equity and quality are to be perceived concomitantly. And finally, educational policy decisions of the 1980s, defined in light of the context and the pace of change in this nation, must reflect the integration of equity and quality considerations. Decison makers must realize that trade-offs are no longer possible between these two facts. Our children must not be compromised in their right to achievement of their potential. We don't want the children of the 80s to look back and say, "Well, those people had a tough job." Forgiveness does not equate with leadership.

a forecast of critical educational policy issues facing policy makers for the next ten years

JOHN FOLGER

I will talk about two issues, the governance of education and the kinds of changes that are likely in it and the finance of education.

Governance of Education

Intergovernmental relations and governance issues are going to be high on the agenda of local, state, as well as national officials. We have had increasing tension, I think, between the levels of government that are responsible for education in this country. The question of excellence and equality at the same time within a realistic fiscal framework is probably an underlying factor in the tension that has grown. We now find ourselves with the National Governors' Association and the National Conference of State Legislatures saying that a new federalism is at the top of their agenda and that they want to establish a new set of relationships with the Federal Government.

As we look at the new administration coming in, I think the key issues will be: Do they attempt to diminish or even eliminate the Federal role in education both in terms of the funding or in terms of its percentage of total public school expenditures? Will the Federal Government develop some new approaches which might be more consistent with the Reagan interest in the private sector and in government doing as little as possible and leaving as much of it to the private sector as we can? Will the Federal Government take an active role in trying to promote vouchers or other choice mechanisms that will obviously have to be financed at other levels of government?

The Federal role in education, I think it is fair to say, is really very much in question. Will the liberal consensus, as some people have called it, which built up the Great Society programs and made the Federal Government the prime mover in trying to achieve equality of opportunity for all segments of our society and, in the process, put into effect over 150 different programs of assistance of various sorts to various groups, be replaced by a different emphasis, one which diminishes the Federal role? If that is the approach, will the courts become the primary arena in which the equality issues are considered? I think that is one of the major concerns we are going to face in the next couple of years.

A second issue is at the state level. The states have become more important in the financing of education. They are expanding and this year over half of the support nationally for the public schools is coming from the state level. The Southeast, of course, has had this condition for some time. A higher percentage of state support has characterized the South for a long time.

We also see a new role for state legislatures emerging. They are becoming much more activist, much more involved. They have larger and more competent staffs. They are becoming involved in issues which were frequently left, or usually left, to the professional educators to resolve. You see minimal competency legislation and teacher competency as agendas that are being pushed by the legislature primarily. You see new kinds of accountability and oversight activities which bring the legislatures into new and fairly tension-filled relationships with the professional educational personnel at the state level. We can also anticipate that if the Federal Government moves away from programs of support for minorities, there will be increased efforts at the state level to translate the equality issues into financing of state programs.

Finance of Education

You can see that I've been talking about the financing issues as well, because these are all interrelated with the governance issues.

The biggest fiscal issue that education has is inflation, whether we can accommodate in the public sector continuing high levels of inflation. What we are seeing are public expenditures that are not keeping up with inflation, not only in education and in the salaries of teachers, but in other areas as well. You see the enactment of tax and spending limitations. We have seen more of that in the West than we have in other parts of the country. Colorado, for example, has a limit of seven percent that public expenditures can be increased at the state level. It is very clear if we anticipate ten percent inflation, and there are very few people who anticipate less than that over the next three or four years, we are going to be steadily falling further and further behind.

The whole question, can we be equal and excellent too, will not really mean much because we won't be either more equal or more excellent in that kind of a fiscal environment. The tensions are there. Again, these are exacerbated by the press of both the courts and the Federal Government through regulations to provide for special populations in a more effective way than we have in the past. The Federal Government has not funded its share of these expensive new programs. The states are burdened not only with a bigger share of those costs, but also the problems of trying to bring about excellence and to cope with the pressure of inflation. This is going to be the overriding issue. Unless we can make some progress in the fiscal issues that we face, we are not likely to be able to make much progress on any of the other issues that are going to be before us.

selected issues in education

K. FORBIS JORDAN

The national interest in education is somewhat different from that for other governmental services and programs. Under the governance system in the United States, education is a State responsibility, a local function, and a Federal concern. State governments typically have an intermediate responsibility in delivery of Federal education programs. With few exceptions, Federal efforts in elementary and secondary education must rely upon State and local agencies to implement programs and services. One exception to this latter constraint is "impact aid" under P.L. 81-874 for elementary and secondary schools in which funds may be used for current operations. In postsecondary education, the usual arrangement is a direct relationship between the institution and the administering agency except for grant and loan programs to individual students.

Historically, Federal policy in education has been either to encourage educational institutions to start or alter specific activities or programs through categorical funding, or to use legislation, regulations, or court decisions to change educational institutions and their programs and services. Basically, Federal funds have been intended to supplement State and local efforts rather than to supplant or replace local and State revenues.

In contrast to some other service areas, the Federal fiscal effort in education has been relatively minor. Federal funds for elementary and secondary education comprise about 8 percent of the total; for higher education about 15 percent; and for vocational education less than 10 percent. These Federal efforts take different forms. Funds for vocational and elementary and secondary education are used to conduct specific educational programs. Federal funds for higher education provide grants and loans to students, aid for specific research activities, or limited aid for institutional development.

Increasing unit costs for educational programs and services, concerns about student performance, and the political implications of an aging population suggests that adequate funding for education will continue to be a problem. Declining enrollments coupled with rising costs have disspelled the myth that the relationship between educational expenditures and the number of pupils being served is a simple one.

As the schools have sought to serve all youth of school age, dual problems have emerged. First, one result of serving pupils with the full range of abilities has been a decline in average student performance; and second, educational institutions have had difficulty in adapting programs and services to provide maximum learning opportunities to this more diverse clientele.

Multiple questions are also posed by the aging population. Declining elementary and secondary school enrollments and unneeded school facilities have forced consideration of options in school facility utilization. Will educational programs be expanded to serve the out-of-school youth, working adults, and retirees? Will facilities be converted to other public uses? Will facilities be made available for private sector use? Even after responding to these questions, the problems of maintaining public support for the public schools remain. To add to the complexities of the situation, the older population will require a growing amount of public funds for retirement and health programs. The traditional power base of parents of school children appears to be declining with the older population replacing youth as a social service priority.

In the following discussion, attention will be given to selected educational issues which likely will be of concern to the Congress during the remainder of the century. The first two might be construed as a package because of the manner in which demographics interact with economics to raise questions about the degree to which the educational enterprise will contract or expand, the level of fiscal support that will be provided, and the source of these funds. Public funds for nonpublic schools is the focus of the third issue; interest in this area can largely be traced to values and parental choices rather than to economic or population changes. Equal access for the disadvantaged, educational quality, and bilingual education relate more directly to the Federal role and opportunities for Federal intervention into the educational systems. The last issue, focus of Federal programs, is concerned with the long-term direction of Federal funding and the details of specific legislation. As with other issues, there is also the concern with intergovernmental relations and the appropriate balance of power and influence between the Federal, State, and local educational governing bodies.

Magnitude of Publicly-Supported Education

The changing age composition of the population, the increasing proportion of families in which both spouses are employed, population mobility, reentry into the labor market at midlife, decline in the rate of economic growth, and pressures for support of other governmental services are among the social and economic forces that will affect public attitudes toward education and the quantity and quality of education that will be provided from public funds.

Rather than being an activity that is sought by children, youth, and young adults, education will likely become more accepted as a lifelong endeavor. The possibility of a high school equivalency certificate may encourage the return to school of those adults who were unable to complete their high school education. In an earlier era, these persons would not have sought additional formal education, but the employment market will require from virtually everyone not only competency in the basic skills but also attention to job-related skills that enable employees to adapt to changing employment patterns and job opportunities.

Another change in the pattern of schooling that appears to be emerging may be found in those youth who are exercising the option of leaving and then reentering the postsecondary educational system. By dropping out and later dropping in, they intend to make more mature educational choices concerning future career options.

Interest in preschool programs will likely increase because children of working mothers need care outside the home and because of the growing recognition of the need for attention to the child's intellectual and social development during the early years to assure that maximum benefit is gained from schooling. At the other end of the age spectrum, interest will likely increase in various postsecondary noncollegiate programs as individuals require supplementary education related to career changes or have greater opportunities to pursue avocational interests because of increased leisure time and early retirement.

Issues are related to whether Federal programs should be initiated to encourage educational institutions to expand programs for nontraditional age groups, to provide retraining programs for persons who must change careers because of changing employment opportunities, to serve out-of-school youth who could benefit from additional education, and to address the educational needs of preschool children with working mothers.

Funding Education

Funding for education can be viewed from two perspectives. First, the rate of economic growth has slowed at the same time that school enrollments have begun to decline. Second, taxpayers have begun to protest against increasing governmental expenditures. The property tax revolt is often perceived as an anti-education effort, but such may not be the case. For example, this is one tax which local citizens often have a direct opportunity to reject at the ballot bax. Another factor is that the combination of inflationary growth in values of real property and improved administration of the tax have contributed to significant increase in property tax bills. The revolt has impacted heavily on education.

For public elementary and secondary schools, taxpayer resistance to property tax in some local jurisdictions has dictated that reductions be made in the level of funding for local schools or that fiscal resources for education have a reduced rate of growth. Demands for expanded social services other than education have resulted in education being in a less favored fiscal condition during the 1970s than existed during the 1950s and 1960s. Demographic, social, economic, and political indicators suggest that this trend will continue.

Of all educational levels, demographic changes may have the greatest impact on higher education. The traditional age group will be smaller, but the demand for higher education may not diminish as women entering the labor force at midlife, retirees, and persons seeking retraining desire different educational outcomes. At the same time, the debate about the form of Federal aid for higher education will likely continue. The current Federal emphasis on student loans and grants places economic pressures on institutions to respond to student demands. One concern is that the quality and breadth of postsecondary education may decline because of the neglect of certain academic areas for which there is low student demand even though the areas may be of vital importance to the social and economic well-being of the Nation.

Research efforts of economists and sociologists about the educational process have focused attention on the manner in which educational expenditures (inputs) affect student performance (outputs). Research findings have been somewhat mixed concerning the impact that additional expenditures and other types of inputs for education have had on student performance. These research findings have not aided the efforts of education advocates to secure more funds, and these persons have been thwarted further by the decline in the level of public confidence in education, the decline in college admission test scores, and the reduced rate of economic growth throughout the 1970s. Education finds itself competing for funds with various other governmental services whose funding requirements are driven by an expanding clientele as well as inflation. Thus, in a political environment characterized by shifting power blocs and a shrinking clientele, the relative power of education advocates to secure increased education funds also appears to have declined.

State level education policymakers confront two major issues in the 1980s--the level of funding to be provided from State and local sources for elementary and secondary education and the degree of discretion that will be retained by local school officials if current trends in school finance continue with a decreasing percent of funds for education being provided from local sources. At the Federal level, the policy choice may well be to determine if the pattern of Federal categorical programs is to continue or if Federal funds are to be directed more toward a consolidated grant format that would permit integration of Federal, State, and local funds to maximize flexibility of resource use for educational programs and services. The latter might use a State plan to assure that certain national priorities are addressed. A potential problem is that this approach may result in the Federal funds being used for revenue displacement at the State or local level, depending upon the intricacies of the State school support program's statutory provisions.

Federal legislative requirements of the 1970s concerning maintenance of effort, the supplementary role of Federal funds, and full service level for all handicapped children implicitly assume that educational revenues will remain constant or continue to grow and that programs initiated by States and localities will not duplicate those funded by the Federal government. Such may not be the case during a period of the shifting age composition of the population, a reduced rate of population and economic growth, and a greater social sensitivity to programs for special populations.

As consideration is given to Federal aid options, several issues emerge. The first is related to assuring that continued attention is given to such traditional national priorities as equal access, compensatory education, and education of the handicapped. A second issue is associated with the proprietary attitude that persons have in initiating and maintaining a categorical program in which they have a high level of interest. An additional issue is the degree to which the Federal government should become involved in funding the operational cost of the regular or basic educational program in local schools. Interest in nonrestricted Federal aid for elementary and secondary education may become greater if pressures continue for reduction in local property tax burden, support increases for interstate equalization in educational funding, and litigation continues to require equal treatment of disadvantaged or handicapped pupils in educational funding. The broad based revenue generating power of the Federal government may be an attractive target for those who seek to maintain or increase the level of funding for education.

Public Funds for Nonpublic Schools

Concern over the quality of the public schools, pressures for desegregation, and the quest for an alternative to the public schools are among the factors related to a continuing interest in aiding nonpublic schools either through the direct use of tax funds for grants to nonpublic schools or nonpublic school students, or through adjustments to Federal income tax schedules to provide tax relief to parents of children attending nonpublic schools. Efforts to change State constitutions so that States could make voucher payments to nonpublic school students have not been successful in Michigan and California, and the tax credit proposals have not been successful at the Federal level. A few States have enacted programs to provide limited funds for the education of children attending nonpublic schools.

From the standpoint of equity, some of the voucher (direct payment) proposals have been deficient because the amounts were not sufficient to pay the full cost. An additional problem is that the voucher proposals often have not included payment adjustments based on differences in the financial ability of the parents. Without some adjustments based on the different levels of need among parents or an agreement that participating private schools will not charge tuition beyond the voucher amount, some observers fear that the governmental subsidy may benefit only the parents with sufficient economic ability to pay the difference for the private alternative. One concern is that the student body in each private school will be homogenous in economic, religious, racial, or ethnic characteristics, and the public schools will be left with the students who cannot afford private schools.

The arguments in favor of either vouchers or tax credits are (1) that opportunities for an alternative education could be extended to a larger proportion of the population, (2) that competition could be promoted between public and private schools, and that such competition would improve the educational services offered by both, and (3) that competition and public choice would be consistent with traditional American values.

Potential relief for financially strapped nonpublic educational institutions as well as for parents of nonpublic school students are among the reasons given in support of the nonpublic aid. From the negative perspective, questions might be raised concerning the potential impact upon separation of church and State as provided in the First Amendment of the United States Constitution, and the possibility of excessive entanglement between religiously-affiliated schools and either State or Federal governmental agencies. Among the areas of concern would be consumer protection and the public interest in assuring minimal levels of educational quality and equality of educational opportunity. Over time, either State or Federal governments might have to undertake some type of monitoring of nonpublic schools, and possibly their programs, if extensive governmental aid were provided to nonpublic school students.

Among the major issues related to the use of public funds for nonpublic schools are the constitutional questions related to separation of church and State, the degree to which programs would benefit all members of society interested in having their children attend nonpublic schools, the impact of the programs on the public educational system, and the types of monitoring of nonpublic schools that should be imposed to assure consumer protection and appropriate use of public funds.

Equal Access to an Adequate Education

As an area of Federal interest, equal access to an adequate education for all members of society has become a major thrust and will likely continue for the indefinite future. Congressional actions such as the establishment of the Basic Education Opportunity Grant (BEOG) in higher education, P.L. 94-142 (Education of all Handicapped Children Act) in elementary and secondary schools, Title I of the Elementary and Secondary Act, a series of Federal judicial decisions beginning with Brown in 1954, and related administrative actions have resulted in continuing Federal efforts being made to assure that each child and youth has access to an adequate or appropriate educational program. Activities include the Individualized Education Program for handicapped children, compensatory education programs, desegregation efforts, and affirmative action programs.

The focus on equality of educational opportunity has resulted in the development of spending comparability standards, ranges for racial balance of faculties and pupils in school districts, and comprehensive educational plans for handicapped children. In some instances, the Federal action has been supported with the funds necessary to carry out the mandate, but in others additional funds have not been provided to enable the local school district to implement the requirement. For example, local schools are not required to provide compensatory education programs in the absence of Federal funding, but current Federal regulations require programs for the handicapped irrespective of the level of Federal funding.

During a period of a reduced rate of economic growth and increased demand for funds by other social service programs, Congress and the Federal bureaucracy may find themselves tempted to impose equal access mandates on local school districts because of the perceived equity involved in the action, but without providing a commensurate level of Federal assistance to meet the mandate. An additional issue is the special requirements being made for education of the handicapped children in elementary and secondary schools through the individualized education programs without similar requirements being made for other disadvantaged pupils or for all pupils.

Educational Quality

Historically, each educational institution has had responsibility for monitoring the educational performance of its students. Declining performance on college entrance examinations and concerns about the basic skills of high school graduates have contributed to an interest in developing or implementing additional evaluation techniques that could be used to measure the skills and achievements of those who complete programs in different educational institutions. For high school graduates, interest in certification of basic skills or minimum competency is being expressed; for graduates of postsecondary programs, attention is being given to tests that might be used to determine if a person has acquired the skills and competencies considered as prerequisites to satisfactory performance in the job or profession for which training has been acquired.

The basic skills or minimum competency movement might be viewed as an extension of earlier efforts by the States to establish standards for high school completion. Initially, students were required to satisfactorily complete a series of courses, and the recent movement could be viewed as a next step, in which the student is required to satisfactorily demonstrate possession of a set of specified skills or competencies.

Some groups have advocated the development of a mandatory or voluntary national testing program for elementary and secondary school students, with educational standards that are either State-specific or nationally uniform. Support for a national testing program may be found among those who are strong advocates for local control of education as well as among those who would support a higher degree of centralization in the administration of the public schools in the United States, although universal implementation of such a program would be in sharp contrast to American educational tradition.

A national testing program assumes a common set of minimum learnings for all students in the Nation, and one concern is that these common learnings might be used as the starting point for the development of a de facto national curriculum. Of course, some observers might counter that among the States the common usage of a limited number of textbooks already has the effect of contributing to the development of a standard curriculum.

Interest in the testing program movement will likely be accelerated as the States adopt minimum competency standards in the basic skills as a requirement for a high school diploma or as a continuing index of a student's progress. One concern about minimum competency standards is that the minimums might become the maximums, and another is that the emphasis on minimum competencies might result in a neglect of other critical areas, e.g., human relations skills, dependability, coping skills, and problem solving, which cannot be easily or directly evaluated using standardized tests.

A matter of continuing interest will likely be the Federal role in education and the degree to which possible congressionally imposed national performance standards might represent an encroachment upon the responsibility that the individual States have for education. The Education Amendments of 1978 authorized funds for grants to States and local school districts to provide assistance for development of their own proficiency standards for elementary and secondary school students; however, no funds were appropriated in FY 1980 or requested in the FY 1981 budget for this program. The issue appears to be dormant at the moment, but the question continues as to whether Congress should encourage States to develop educational performance standards or have a single set developed for the entire nation; however, the latter choice would likely be viewed as a significant threat to the traditions of American public education. This illustration provides an example of one emerging political conflict in the Federal system--the balance of power between Federal, State and local governmental responsibilities, and public pressures for a congressional response to a matter that is perceived to be a national problem even though the problem may not be viewed as a direct or traditional Federal responsibility.

For Federal postsecondary education programs, the issue of educational quality is more complex than for elementary and secondary programs because of the variety of institutions and programs seeking to serve the postsecondary clientele. In the absence of a State governance structure responsible for quality in higher education similar to the one responsible for elementary and secondary education, postsecondary institutions have banded together to form non-governmental accrediting groups to certify educational quality. This structure has been used by the Federal government to determine institutional eligibility for participation in various Federal programs and institutional approval for attendance by students receiving various Federal grants and loans. The intent is to assure that institutions meet minimal quality standards for the protection of both students as consumers of education and taxpayers as providers of funds.

During a period of expanding demand for education, the accrediting groups controlled by educators from member institutions were able to establish and maintain a reputation for effectively monitoring the educational quality in member postsecondary educational institutions. These groups have established standards for institutions and have developed a process of evaluation, reporting, and institutional visitation to ascertain the relative quality of their member institutions.

Confidence in the capacity of the accrediting groups to monitor and police their member institutions has been a matter of continuing concern, and questions have been raised about the capacity of accrediting groups to adopt and enforce meaningful standards and the lack of accrediting standards related to certain national interests and social policy issues such as equal access for minorities and women, and consumer protection. In this context, as the "accredited" institutions are confronted with declining enrollments and increased costs, the issue is whether the Federal government can continue to rely upon the sanctions of the accrediting groups as means of assuring quality in educational institutions or will assume direct responsibility for determining eligibility.

Educational quality issues for the Congress appear to be what types of action, if any, should be taken to address student performance problems and what procedures should be used to "approve" educational institutions for participation in various Federal programs.

Bilingual Education

Most of the attention in bilingual education has been given to the Hispanic population in the United States, but this is not the only group affected by the program. In addition to recent immigrants, and other groups that have maintained their cultures, Native American Indians are among those concerned about bilingual and bicultural educational issues. The problem is multifaceted, for significant clusters of other ethnic groups may be found in various parts of the Nation (for example, French-speaking groups in Louisiana and Northern New England).

Concerns about bilingual education needs are often dual and may not be complementary. The first is the need for youth to develop sufficient proficiency in English to be able to function in school and to cope in the American culture, and the second is the desire of a group to have public elementary and secondary education provide an organized program through which their culture will be maintained. To some extent the first concern has been addressed by the Federal courts in the Lau case that required instruction in a student's native tongue when the child does not understand English. The underlying issue has existed since the formation of the Nation: Should national policy be to promote linguistic and cultural assimiliation, to provide support for the retention of pluralism in the culture, or to seek some middle position in which cultural values will be maintained but linguistic assimiliation will be facilitated?

Current Federal efforts can be classified as demonstration programs with discretionary grants being made from the Federal level. Long-term resolution continues to be a matter of debate. The principal issue is whether or not it is in the national interest to provide Federal funds for support of programs that will enable non-English-speaking children to become sufficiently competent in English to function in the schools. The next issue is whether or not Federal funds should be used to support education programs designed to maintain cultural heritages. During a period of limited resources, an additional issue will be the number of cultures that the schools can seek to maintain. Unless equal treatment can be provided for youth from all cultures, a related issue will be to identify those programs that will be supported with public funds. This action has the possibility of being viewed as discriminatory by those persons for whom the public schools do not conduct cultural maintenance programs. Consensus does not appear to have been reached as to the appropriate policy, and debate will probably continue as to the value and purposes of bilingual education, and the appropriate Federal role in this area.

Focus of Federal Programs

An issue of continuing interest will be whether Federal funds should be used for direct support of ongoing educational programs, support of programs for special populations or specific activities, maintenance of specific institutions or activities, demonstration programs with promotion of the concepts through dissemination activities, or research and development activities that could be used as an impetus for the improvement of educational practices. A point of concern relative to Federal postsecondary education programs is in the extent to which student loans and grants comprise the bulk of the funds and the potential impact of this pattern on postsecondary education opportunities.

Funding experience with existing direct program support activities such as compensatory education programs under Title I of the Elementary and Secondary Education Act (ESEA) and with research programs through the National Institute of Education (NIE) does not suggest Federal commitment to dramatic growth in funding for either activity in the future. ESEA Title I funds have barely kept pace with inflation.

If equal access remains as a primary Federal interest, support of programs for special populations would be a logical action; however, if the Federal interest is in the promotion of educational change, demonstration programs or research and development activities may be the appropriate choice. If the interest is to maintain specific types of institutions or programs, institutional grants or subsidies would appear to be an option. Most previous Federal activities have been oriented toward enhancing specific educational opportunities provided through the schools, not the direct support of specific types of institutions. The remaining possibility is that Federal funds be used for direct support of ongoing educational programs without the imposition of a requirement that additional services be provided for specific target groups of children. One potential difficulty with this latter position is that taxpayers rather than students might be the ultimate beneficiaries of the increased Federal funds.

a forecast of critical educational policy issues facing policy makers for the next ten years

RAYMA C. PAGE

I am not an educator, as you know. I am a representative of the public, and school board members are the closest elected officials to you. We are somewhat of a "hands-on" experience. We are the ones that get the flack of what is going on in all the other places and what is happening in Washington and Tallahassee. We are the ones that you can reach in a grocery store, beauty parlor and so forth. We are the ones that really know, I think, what is happening.

As a school board member for the past twelve years, and now elected for the next four, and a member of the National School Board for eight, I guess you would think that I could definitely convert the experience mirror of the past into a crystal ball and come up with a forecast which, if not consistent with your own, might, at least, be believable. I have a very good friend who has been a school board member for eighteen years. He likes to say, "If you would have asked me this question eighteen years ago, I could have talked for hours on it." New school board members can usually tell you more about what they think is going to happen in the 80's than some of us who have been around for a while! I think that when we stand back and survey the broad and ever-changing world of education, one is made more aware of how complex it is and how many factors influence its course within and without the education community. I think it's a little bit like viewing your own hometown from an airplane. The familiar streets and buildings become blurred in a panorama of interconnecting highways and byways and a maze of other landmarks. The town you thought you knew suddenly takes on new dimensions that at once fascinates, but also disorients.

This reminds me of a recent laboratory test that was conducted to find what really happened when the earth was created. The scientist spent months collecting the material, checking it and rechecking it and feeding it all into the computer. Then the great moment came and all the research was completed. Everybody gathered around. They pushed the button and the great computer spun into action. The circuits opened and closed and the lights flashed and bells rang. Everyone waited with bated breath as the printout clacked an explanation of how the earth was created. The cryptic message read, "See Genesis, Chapter 1, Verse 1." I assure you that my appearance here today is not going to be that dramatic and my remarks are not going to be that profound, because I agree very much with what the other three people have said. I will start by saying, "In the beginning..." and let's look at some of the same demographic trends that Phyllis outlined for you and the others reinforced. I'm probably going to be saying some of them in a little different light because I'm looking at it from the local elected official's position.

I believe that people will continue moving to the suburbs as energy allows. I believe on a regional basis, the population migration is going to continue to be to the Sunbelt. The biggest gainers are going to California, Texas, and Florida. I certainly can testify to this. I live in one part of a state that grows a thousand students a year. We built three new schools last year, levied two mills to build two more this year. By the way, when you have censorship against, you can do anything and get away with it. We levied the two mills. Nobody bothered, even questioned, the raise in millage. All they talked about was Catcher in the Rye, Catch 22, and Soul on Ice.

Postponed marriages, high divorce rates, low birth rates, and the movement of women in the job market will pose a continuing strain on the traditional family unit. Despite the declining birthrate, the actual number of women bearing children will climb to thirty-four million. This could pose another potential baby boom for us to deal with. Meanwhile, our population is getting older. That makes me feel better because in the 90's, the median is going to be forty. The actual labor force will expand by 15 percent, and, I think, the problems are going to be of unemployment, underemployment, reemployment, and misemployment. All of which could impact adult life. I agree that Hispanics are going to be our largest minority group during the eighties, and I think they will outnumber the Blacks during the nineties.

In addition to the population statistics that we've talked about, let's look at some other factors which will affect public schools and will raise critical policy issues for schools that have to make those decisions. Inflation will continue, fueled mainly by energy and labor costs. As a result, the public will continue to resist increased taxes and will bring pressures for tax relief, such as property tax reform and legislative spending limits at all levels of government. Minority and ethnic groups will continue their efforts at all levels to improve their socioeconomic position and secure more favorable achievement. Public school enrollment will continue to decline, I believe, until the mid-80's when it will level off to about 39-1/2 million pupils. At that time, the number of elementary students will begin to rise, increasing by four million or nearly 14 percent. High school enrollments will drop by about 2-1/2 million or by 17 percent. The enrollment decline, where it occurs, will cause many readjustments in school operations, involving such options as hiring fewer teachers, laying some teachers off, reducing class size, reducing teacher-pupil ratios, closing, selling or leasing school buildings, remodeling older facilities for new uses, changing school attendance boundaries, busing students to other schools. Operating costs will continue to increase, fueled not only by inflation and rising energy and labor costs, but by high overhead expenses, mandated federal programs such as removal of architectural barriers for the handicapped and many auxiliary social services that schools are expected to provide. It is highly likely that the militancy of teacher unions will increase as inflation and declining enrollment threaten the teachers' economic job security. Teachers' pension plans will certainly be a big issue for negotiations. During this troubled period, parents will look with increasing favor on private and proprietary schools which will pose a stiff challenge to our public school system. Added to this challenge will be the pressures, I believe strongly, for tuition tax credit and voucher programs. The one thing I think we're concerned about at the public level more than tuition tax credits, are the voucher programs. We see this to be a complete erosion of public school control.

To counter this movement, the education community will likely form new coalitions with other public employees and organized labor. Together they will generate substantial political clout on their own. A movement will gain steam to levy user fees on students for services previously funded out of tax revenue and to increase state financing of schools. The latter will bring with it the threat of more centralized state control over public education.

At the same time, efforts will be intensified to get the federal government to pay more of the costs of public education. This increase could be substantial as local resources diminish. At present, the ratio is nine percent federal, forty-three percent state, and forty-eight percent local.

The public schools will continue to be greatly influenced by federal involvement in many ways, not only because of the government's funding capabilities, but because of its lawmaking powers and its regulations relating to federal programs. Increasing controversy will develop not only over the amount of federal aid to education, but also the nature of that aid. That issue will be the amount of paperwork required by local school districts, often contradictory federal regulations, and acceptable ways to treat states differently based on their varying performance and needs. Especially controversial will be the mandated compliance with Public Law 94-142, Section 504, and bilingual programs. Regulations are something that local school boards are dealing with on a daily basis now.

With the continuing strains on the family unit, we no longer assume that all of our students are a two-parent family in which mother works at home. Almost half of our students will live with only one parent during part of their life. The trend will accelerate toward an increase of minimal competency testing for students to assess whether they are making the progress in school they should and the public concern over the quality of education. Likewise, the trend toward the basics will continue with a growing public insistence for greater emphasis on the 3 R's and more traditional classroom instruction.

Increased attention will also be given to teacher training, especially in bilingual education and education for the handicapped. This, I think, will be done mainly through teacher centers. Despite the limitation of school funds, technology will become increasingly significant in our school budget. Unfortunately, schools will be slow in coming for such social problems inherited by the schools as drug abuse, alcoholism, teenage pregnancy, discipline, absenteeism, and vandalism.

These concerns and developments pose obvious questions for local boards that must be resolved during the 80's: How to do more with less purchasing power in the face of diminishing resources, a changing demography, and an erosion of local control over the schools? How to specifically cope with the physical problem of declining enrollment or, as in my case, to meet the challenge of increasing enrollment? How to reorder our priorities, including a restructuring of the public school curriculum in order to satisfy old constituencies and yet meet the needs of new constituencies in fulfilling their expectations? How to cope with increased pressures at the community level from parents, ethnic and racial groups, conservative and fundamentalist groups, and back-to-basics advocates? How to rebuild public support for public schools, especially among other taxpayers as well as non-parents? How to combat increasing demands by teacher unions? How to cope with shifting power relations between local, state, and national governments? More specifically, how to combat a continuing usurpation of local control of our schools due to legislation and regulations imposed by federal and state governments and court decisions? The litany goes on. All that I have said could easily suggest that the decade of the 80's will not be a happy one. That is a reasonable conclusion, but I don't think it's necessarily an accurate one.

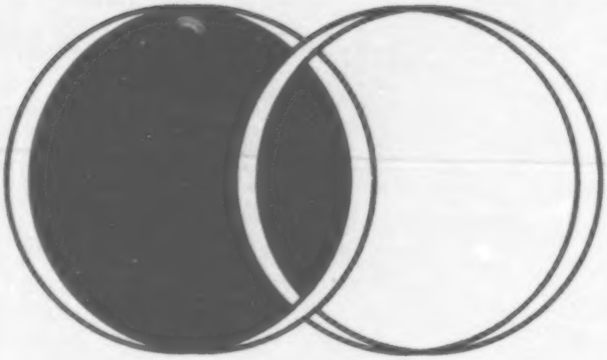
We are living in an environment of continuing change and adversity, but there is nothing new about that because school boards are used to that. We cope with change every day. The questions are whether local school boards will capitalize on change by creating the proper climate for needed improvement, and whether we will convert adversity into advocacy by demonstrating leadership and bringing needed improvements.

The task will be far from easy, but I think school boards are used to those kinds of tasks. I find considerable encouragement in the fact that, according to the most recent Gallup Poll on education, the nation's public schools rank second only to the church on the list of institutions in which the people have the most confidence. The schools rank well ahead of the courts, local, state and national governments, labor unions, and business. To justify and capitalize on that confidence, we must all commit ourselves to an assessment of what is working and what is not and why. Parents expect the schools to prepare their children for a life in the future, not just the present and certainly not the past. To set realistic goals and be effective, the schools must subject past assumptions to critical analysis, so we can literally ride the wave of the future.

I believe that the disillusionment with education in the 70's, following the optimism of the 50's and early 60's will change for the better in the 80's. There is a growing realization that the educational system cannot solve all of society's problems. What we need most is a sense of common purpose and an agreement on how to reach our mutual goals. The schools can and should be in the forefront of that movement. My own personal belief is that they will.

> In North Florida, there is a farmer who has a grandfather's clock that sits on his stairway. One night, he was sound asleep when it began to chime. It went 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13. He woke up, shook his wife and said, "Wake up, mother. It's later than it's ever been before."

I think it is, but I do not believe it is too late!



role of the private sector in improving education

role of the private sector in improving education

NORMAN HALLS

My charge today is to tell you about the National Asssociation for Industry Education Cooperation, its history, programs and why industry education cooperation is needed. For two hundred years there have been advisory groups assisting education on different subject matters, at various educational levels and lengths of time. In 1949, the National Science Teachers' Association instituted the Business and Industry Section to assist teachers in an ever-growing need for material relevant to industries' needs. Fourteen years later the name Business and Industry Section was changed to the NATIONAL ASSOCIATION FOR INDUSTRY-EDUCATION COOPERATION, NAIEC.

The National Association for Industry-Education Cooperation has been recognized since 1964 as THE PRINCIPAL ORGANIZATION advocating improved coordination between the schools and industry (business, labor, government, and the professions) leading to better alignment between education and the market place.

In the late 1960's, the National Association for Industry-Education Cooperation in cooperation with the National Association of Manufacturers developed guidelines to assist both businessmen and educators who are interested in increasing industry-education cooperation through the creation of an Industry-Education Council.

The council encourages the participation of businessmen in areas such as school management, curricular development, and methodology in linking the world of work with the classroom. But, in twenty years, industry and education have not fully developed the relationship that is needed. In 1972, the U.S. Office of Education proposed an office for Industry-Education-Labor Action with a coordinator. The coordinator's time was not used totally in the Industry-Education-Labor Action office. After three statements (position papers), it was terminated. It never really materialized.

Just recently, however, Secretary Hufstedler said that there should be more cooperation between the schools and industry. She stated:

> "For many years leaders in education and business thought they had little in common. Today, we know that although we are in different boats, we are sailing the same choppy seas of economic, social and demographic change. Both sectors, education and business, share the common challenge of finding productive ways to take full advantage of America's human resources."

In another comment about the need for industry-education cooperation Governor Bowen of Indiana said:

> "Many different definitions of education and work, including those in the dictionary, can lead us to assume there is no difference between the two; that work is education and education is work. Education is defined as a process of training and developing knowledge and skilled mind and character." "There was a time," he said, "in this country, when linking education with work was relatively simple. Now, however, work has become formalized and more highly specialized than education and has both broadened and deepened to reflect both our technological society and our inherent individual freedom."

Dr. Leon Lessinger, who was Dean at the College of Education, University of South Carolina, said:

> "Schooling, as it is currently conceived, is a time-bound means for moving students along a continuum of learning experience.. usually courses..with few standards of judging the fitness of the 'finished product.' The prime standard for the judgment is missing, that standard being fitness for the use of judgment by the user." He goes on saying: "The student should acquire some demonstrated degree of competence and confidence as a result of the process of going to school."

Peter Relic, the former Deputy Assistant Secretary of Education, now Superintendent of Schools in Hartford, Connecticut, said:

> "Business and industry are saying, we think we can teach the people better than you. Our employees who are products of the school system really aren't well trained for the jobs. They can't read, write very well, or add. We'll take over, the earlier the better, and teach skills."

Right now, educational studies paint an ominous picture. Students are not prepared. One reason is that most educators, between 90 and 93 percent, (non-vocational) whether they teach elementary, secondary, or college, only receive theory while they are going through school. Very seldom do they go off the path to be involved in business and industry and really know what business and industry are doing in the community. On March 11, 1973, some 10 years ago, an article was in the New York Times, stating: "Contrary to a general public conception, a serious shortage of engineers is developing in the country." Recently, here in the Southeast and also in the Northeast, we are still crying for engineers. We did a study in our area and we found that the colleges are somewhat reluctant to change the curriculum to add more people into the engineering program. Another example, there are a number of orders for goods, but we really don't have the skilled work force to provide it. And recently, the Census Bureau said that there was $90 billion backlog of orders in aircraft production. There is also a backlog in the steel production. The message has not reached the educators, because the system does not have the methodology in linking the world of work with the classroom.

> Recently, a large manufacturer reported, "In the next five years, the scarcest resource of all for metal shops like the one at this company may not be energy or oil or even cash. It may be skilled hands.
>
> "In the past decade, the shortage of job applicants with usable skills has become so acute that company-run training programs, some of them remarkably elaborate, have sprung up throughout our state.
>
> "With an expected dropoff in the number of high school graduates because of population trends, or ill-advised young people in their career choice, the

> situation shows signs of getting worse claims
> the State Economic Development Department."

In the near future, business and industry will be more involved in education than they have been in the past. In the past, the business people assisted financially and sat on advisory committees. This will still be done, but they will also be totally involved in teaching.

We will see industry and businesses loaning people for one or two semesters to local school systems and colleges, not only at the vocational education level, but also at the professional level. With technology changing at an incredible rate, educators and textbooks cannot keep up with the change.

The National Association for Industry-Education Cooperation has programs and members who can assist such areas of change in order to change a situation around. Educational institutions owe an allegiance to local industry. Another program, NAIEC has, is the Community Resources Workshop that involves the teachers, counselors, and school administrators in how today's schools must meet the heavy responsibilities that once was allocated primarily to the educator who only had a total educational experience.

The third major focus of NAIEC is School-Based Job Placement. To assist schools in meeting the students' need to find good employment, NAIEC and the National Advisory Council on Vocational Education developed a training manual for constructing a comprehensive school system-based job placement services program.

The NAIEC mechanism is in place so that both education and industry can be used to its fullest potential. In utilizing NAIEC's experience in developing a well organized, clearly-defined approach to linking industry and the schools, the Association proposes to accomplish the following objectives:

1. Improve the coordination, linkage, and alignment between industry and education.

2. Assist state education departments and economic development departments to develop an industry-education coordination function designed to encourage and direct the growth of state-wide industry-education cooperation.

I would like to leave you with this one thought: The need for high level productivity-employability personnel will become urgent tomorrow and in the years to come. To develop this discipline, it takes years of nurture from early childhood until the time they enter the workplace. With the technology that is appearing on the horizon, business and industry cannot retrain these young people from ground level. The changes in production, buildings, and equipment are taking place three times faster than the time needed to train someone for that skill. The demand in the future will be greater entry level skills regardless of the occupations. Such changes, the reason behind them, and the means by which they are occurring, requires wide dissemination throughout education, with the assistance of industry.

Thank you.

role of the private sector in improving education

JANE WORK

I know there are a lot of experts in this audience today as I talk about the private sector involvement in education. By way of putting this into perspective, think for a moment of one or two of the major problems that you see facing your local school systems or your state schools. Then ask yourself, what are we doing and how are we involving the private sector in the solutions to those problems? To enlarge this perspective, think about the major international problems you see facing the students who are in our schools today. Then ask yourself, what are we doing as educators to help students in the schools today learn to solve those problems?

Business and industry have a long history of interest in education. Industry set up the first vocational education schools. In the mid-1800s, as the Industrial Revolution took hold, there was not a single private or public secondary school in the United States that had any kind of training in vocational education or in industrial technique. So, businesses began to set up their own schools. By 1913, there were enough of these that they formed an association called the National Association of Corporation Schools. By 1916, there were 60,000 boys - and they were all boys - enrolled in those schools. By 1922, when that Association merged with the American Management Association, it had 150 members. So the business-industrial sector has had a long and continuing interest in education. We're motivated by three things: we need employees who are educated; we pay a lot of the taxes; and we're concerned about where our money goes. But, most important, we live in these communities. My children go to public schools and so do most of the children of my colleagues in government and my colleagues in industry. So, in terms of citizenship and concern for the future and concern for the communities and concern for the states and concern for the United States, the private sector cares a great deal about public education.

H. L. Mencken once said, "For every problem there is a solution that is simple, short, logical, and wrong." I am not going to offer solutions.

I simply want to raise some ideas within a framework of the three goals in which I am defining education as I think the business-industrial sector of the United States would define education.

First, education should help to prepare students for the world of work. We should seek to help students learn what they want to do with their lives and where the opportunities exist to pursue these objectives. If students are to make rational choices among alternatives, they must understand the cost and rewards of each vocational endeavor.

A second goal is that students should be prepared to play an intelligent role in the political life of the community. Many of our major institutions today are held in very low esteem. We would argue that one reason they are held in such low esteem is that the public doesn't understand the relationship of our major institutions, like the schools, like government, to the concept of a democratic society.

Finally, education should help students assimilate the ethical world of adult responsibility.

Within those goals, and I believe they do represent the attitudes of business and industry to a considerable extent in the United States today, let me throw out six ideas. They're not solutions, they're simply statements, ideas that can relate to the private sector involvement in the public educational system.

1. Improvements in our schools are probably not going to come from increased spending. There is increased spending in the South, but in the United States, education now takes about 8 percent of the Gross National Product. That reached 7.2 percent in 1967, up from 2.8 percent in 1947. Even though the Southeast is getting more of the GNP than it used to as industry moves into this area, the indications nationally are that it has reached about as high a percentage of the GNP as it's going to. So, we're going to have to look at ways to utilize the resources in our communities more effectively. I think you also may see some reorientation of funds. For example, the Department of Education may begin to put their funds into basics. I am on the Northern Virginia Manpower Consortium and have worked with the CETA programs. The CETA programs may orient more of their resources toward disadvantaged youth, toward the structurally unemployed.

2. As funding is increased, there has been a growing concern about accountability. I would maintain that for educators accountability is almost a no-win, it's a Catch-22. So often, you're asked to implement programs that have been mandated at the Federal level, or through the courts, and then, you're held accountable for them. There is a serious need for greater cooperation within the local community. The private sector can help the local community. More input from local government, local private sector, students and educators in determining what the goals in our community for our educational system are would help.

I ran across a delightful story the other day. A mother was trying to get her son to go to school, and he said, "I don't want to go to school. The students don't like me, and the teachers don't like me, and the bus drivers hate me and the custodians don't like me. I don't want to go." And the mother said, "You have to go. You're a leader, you're outstanding, besides you're 42 and you're the Superintendent, you can't stay home!" I know all too often we feel like we are caught in a Catch-22.

3. The demography of the United States is changing radically. Every ten years the median age goes up two years. Secondary school enrollment is falling. Couple this with the fact that today many of the structurally unemployed are not structurally disadvantaged high school youths, but they are 50 year-old steelworkers who are out of jobs. What happens, for example, when Ghana competes with Brazil, which is already competing with Japan for the auto manufacturing of the world? What happens to American workers who don't have new skills? I would suggest - and our orientation is very much localized, regionalized as opposed to federally-mandated orientations - I would suggest that local school districts may have a very significant role to play in what we call the new structually unemployed.

4. The Department of Commerce recently published a report suggesting that one way to improve the nation's productivity is to encourage innovation among students, that it's got to start back there. The future economic competition of the United States in the world markets is going to depend on high technology and high productivity areas. What they're saying is that in the return to basics in education and in the emphasis on basics we must not let our gifted children slip through the boards. The Board recommends special programs for exceptionally gifted children through enhanced government-industry-school system interaction.

5. The United States has the highest unemployment rate among teenagers of any major industrial country. As of last Friday it was 18.4 percent. On the other hand, we have serious labor shortages in certain high technology fields. At the same time, projections are that within the next ten years we will have serious shortages of persons for entry level positions. The Vice-Presidential Task Force on Youth Unemployment found that in order to be employed, youths must be able to read, write and compute, and they must understand the workplace, which is just as hard to teach as it is to teach how to read, write, and compute. They must understand the concept of work. We would maintain that the major solutions to this structual unemployment is going to be locally oriented.

6. What is needed is a better partnership between education and the community, and I mean labor, business, industry, government, all of your community resources. This is the nature of the industry-education partnership.

I want to close with a story, because it's a challenge.

> The setting is the San Francisco Bay Area 74 years ago. At exactly 5:13 in the morning on the 18th of April, 1960, a cow was standing at 123 degrees 20 minutes west longitude, 37 degrees 58 minutes north latitude - somewhere between the main barn and the milking shed at the old Schafter Ranch in California - minding her own business. Suddenly the earth shook, the skies trembled, and when it was all over, there was nothing showing of the cow above ground but a bit of her tail sticking up. For the student of history, the Schafter cow is a symbol of our times. She shook quietly enough, thinking such gentle thoughts as cows are likely to have, while huge forces built up around her and within a minute discharged, all at once, a great movement that changed the configuration of the earth, destroyed a city, and swallowed her up.

That's the kind of thing we're talking about in this conference that focuses on the future of education in the eighties. If we do not learn to understand and guide the great forces of change at work in our world today, we may find ourselves like the Schafter cow swallowed up by vast upheavals in our way of life, perhaps quite early some morning.

role of the private sector in improving education

W.T. DWYER

The one word that I would select for the role of the private sector in improving education is very simply "involvement." For too long, we in business have been told to sit back and tend to our business, that the business of business is business. Let the business of government be left to the politicians, let the business of education be left to the educators, the social structure of the community to the social workers, and do the things that you know how to do best, i.e., be more productive, make a better product, market it and make money. That's your contribution to society. Well, certain economists like Milton Friedman notwithstanding and I think that philosophy overlooks several very important facts. The first fact is that the young people being educated, the students of today, are the employees of tomorrow; the better the education they receive, the more productive employees they are going to make for business. The second fact that it overlooks is that good employees, quality employees, demand quality education for their families and for themselves. If you don't provide it for them in their community, the American worker today is mobile enough to go where the quality of education suits their needs. Finally, I think it overlooks the fact that business is more successful, most enjoyable, and profits are best where the quality of life is high.

Excellence in education is the key to the quality of life in a community. Quality educational facilities and programs not only attract and help retain good people, but lead to an appreciation in the community for things that are important to business, like good and efficient government. A range of cultural activities, various cultural resources, recreational resources, attractive housing and the whole range of things that we describe as quality of life are very important to successful business.

Several years ago, the Joint Economic Committee of the United States Congress made a study of several thousand businesses in the United States, asking what they looked for in a community when these businesses considered relocating or expanding a current business. It may surprise a lot of politicians to learn that the quality of the school system ranked ahead of things that you would normally consider as major business concerns, such as the cost of energy in the area or the tax rate. Think of the tax rate for a minute. Political bodies all over the country, particularly in the Southeast, are falling all over themselves trying to offer tax incentives to industry to get them to move to the area, but they're unwilling to make an investment in quality education. Yet, we're telling them education is more important to us than the tax rate. Quality education also ranked ahead of the availability of labor, the cost of land, and many other considerations in the selection of an area.

I think that business is now starting to get the message that we need to get involved in education. Just as Clemenceau said some 65 years ago, "War is far too important a matter to be left to the generals," businessmen are beginning to realize that education is far too important a matter to be left solely to the academicians. We need to get involved in it. We're starting to get involved and that involvement should concentrate on certain areas where business people can make a contribution. One of those areas would be funding. We're a major taxpayer in the community, as a business, and our employees make up the great bulk of the tax source from which the public funds come. We need to impress upon our elected representatives that we expect, we demand, that they adequately fund quality school programs. If dollars are the answer, and I agree with Dr. Work that dollars are not always the answer, I think we need to insist to the politicians that they provide those funds and that we business people are willing to stand up and pay it. I think we have some expertise in the area of management. Schools are major businesses in our communities today, from the standpoint of the number of employees, the amount of purchases and the data processing capability and various other areas in which businessmen have an expertise and can make a contribution.

Finally, we can get involved in community support. One of the practical goals of education is gainful employment. Industry can work with the schools to provide some input on what is important and what we need from the school system. We can get into the schools so that we can find out what students and teachers are thinking about.

Let me cite just a couple quick examples of some ways that business has been involved. Back in 1978, the Economic Council of Palm Beach County was quite distressed by the fact that our county school system ranked considerably below state and national averages based on various testing norms. The business community came up with $75,000 to fund a study by a private organization in Tallahassee, an educational consulting firm known as MGT Incorporated. That study was an objective evaluation of the process by which the school system determined the educational needs of the students and then how they went about the process of filling those needs. We didn't get involved in the actual teaching process itself but, rather, in the management process. We produced a 240 page study with some 63 specific recommendations on how the schools could be made more efficient and do a better job of teaching the students. The school board adopted over 40 of those 63 recommendations when the report came out and, since then, has adopted most of the remainder. One of the fallouts, incidentally, of that study was a highly improved perception of the school system by the people in the county because the study accentuated many of the positive things. Another thing that I think was very important was the tremendous boost to teacher morale because the educators were aware that there were people out there who were interested in their problems and willing to put their money where their mouth was and do something about it. In 1979, the South Florida Coordinating Council, a three-county consortium of business organizations in Dade, Broward and Palm Beach counties, did an in-house study, which we presented to Commissioner Turlington and Governor Graham and a number of other folks, with a number of major recommendations principally of the role of school boards and the involvement of the community in education. Again, here is an example of a very prestigious business group standing up, demanding excellence in the school system and stating they're willing to pay for it.

In summary, don't be misled by my remarks. I don't mean to indicate that we've solved all the problems. I'm very proud of what has been done, but we certainly haven't won the war. In fact, I'm not even sure it's going our way but at least we've joined the battle. If business and community leaders continue to stand together and insist on quality education, the system will respond to us, our young people will get the kind of education that they want, that we want them to have, and that you're capable of delivering to them.

role of the private sector in improving education

PAUL M. PAIR

When any society or organization has for its goal or its objective, the improvement of education, I want to be there. I liked also what the advance publicity said about partnership. I want to start with that. I want to use three illustrations of partnership. One is very personal and positive. The second is negative. And the third will be positive.

The first one is very much related to this subject and this whole conference. In June of 1957, I founded Automation Institute of Chicago, the first data processing school in the entire Midwest. It was the right time, the right place and the right city. Ten years later, it was the first such institution in the United States to be accredited by the U. S. Office of Education. Control Data acquired it. Instead of coming down and competing against me, they decided to acquire my school. The point of this first illustration of partnership is this: While they were acquiring my school, Mr. Norris, the President of Control Data, said, "Paul, I want you to know this company is dedicated to more education and training." I loved him for saying that and I am now a partner. I married that company and we have had a good partnership.

Now, my second one is entirely negative. This old codger decided to marry: They went to the judge, the ceremony was very brief, he hardly knew what happened except the judge said, "OK, good-bye."
Well, this man came back to the judge in six weeks and said, "I want a divorce."
"Why?" he said, "What's the matter"?
"Well, he said, "I don't like this woman."
"Well, that doesn't matter. You're married, she's your wife."
"I can't stand her."
"You really promised to take her for better or for worse."
"But she's worse than I took her for!"
There's a partnership that didn't last.

My next one is very important and, I think, very profound. It involves the Education Commission of the States. Forty-eight of our fifty states are members and participating members in a partnership. Their office in Denver serves as a clearinghouse similar to your office in North Carolina. Here's a partnership of all educators at all levels trying to solve the problems of education, just as you are in the Southeast.

One of the problems with improving education and developing the quality of education - is what to do about the status quo, how to improve the quality of the school system with everything that's there and in place. I have such a good example of that: A New England town council once met and came to three momentous decisions: A) They would build a new town hall, B) They would use as many bricks out of the old one as possible in the new hall, C) They would meet in the old one until the new one was built. This is a good joke, but it really illustrates our problem in education today. How to go from here to there in improving the quality of education. That's why you're here, that's why you have this Southeast Region Association, and I'm glad to be a part of it.

Mr. Dwyer and I happen to agree on a good quote: "Education is too important to be left to the educators." I heard this I think five years ago. As a lifetime professional educator, it hurt my professional pride. I asked, "Are we that bad?" But, as a businessman, I said, "That's telling them. They deserve it." So there you are, education and/or business--will we ever talk together, will we ever get together? Yes, we will and we are. This is such a good example of how we can cooperate.

I want to read an abstract of my lecture this afternoon titled, Education AND Business: A Mandate for Teamwork! I think it's very appropriate to read it right here, regarding this matter of partnership. "The education of an individual is not an end in itself, but a means to an end: Preparation for a lifetime of productive participation in the societal, cultural, and business life of his/her community, or his/her society. The implication is that of lifelong learning. After the initial formal education program, most citizens seek gainful employment-business, industry, government, the professions--hence, the active participation of all of the above helps assure a viable, vital updated educative process.

The only constant today is change. Change characterizes the kaleidoscopic era in which we live. Therefore, a cooperative effort of all segments of our society is mandated.

The partnership that we are talking about here today: "Education is too important to be left to the educators." Five years ago, I didn't agree. Today, I do, entirely.

Everybody's getting into the act. Let me be more specific. I'm in Phoenix. Look what's happened down there, and multiply by 10,000 communities across the nation. Five years ago, Jeff McKeever and Allen Hald, both College of Business Administration graduates, and both with banking experience, opened a computer store. The name of it was Byte Shop. Now they have dignified it by calling it Micro-Age Corporation. That, again, illustrates how fast we're moving in this new era. So the first one there was Byte Shop, now Micro-Age Computers. And then along came D.E.C.: Digital Equipment which is very active in the valley. They have a very attractive learning store, a computer store, I believe they call it. They are on North Central Avenue and they are busy!

Then, in a new shopping center, we noticed about six months ago there is another learning store. And, of course, Control Data is involved. Just about five months ago, we opened our 85th Learning Center in Tempe, a suburb of Phoenix. This illustrates what is happening regarding the partnership that is developing between education and business. I just attended the session this morning by vendors, and if you were there you got the idea also of how rapidly educational technology is coming on for us in the field of education.

I want to get into a negative aspect here to illustrate, as a lifetime educator, how serious I think it is regarding the so called education "brain-drain," I guess it is a rather crude word, but I'm going to use it. Let me illustrate: I mentioned that we've just opened a Learning Center. Last November, we ran one ad in the Sunday paper, five by eight inches, just one little ad, one time, in which we called for resumes for the manager of the Learning Center. We specified: a) we want a person with a major in education (we required that), b) we preferred a person with a Master's Degree in Education. Here is a story: Two hundred and fifty people responded to that one little ad. "Brain-drain!" There are too many of our top people being literally "creamed off." I am deeply concerned about it, (our educational system in this country), as you ought to be. Two hundred and fifty people applied for that one position. My son, who is manager of our Northwest Division in Seattle for Control Data ran the same ad about two months later in Portland. One hundred and fifty people applied. And what can we do collectively about this problem of brain-drain? We are losing the cream of our education, trained practitioners to business? In that sense, I am concerned about this partnership.

Everybody getting into the act. Here's another example: Don Price, Director of Academic Affairs for Sierra College, Sacramento, is also Executive Vice-President of the Data Processing Management Association, one of my professional organizations. Also, he is President of a rather new Education Foundation established by the Data Processing Management Association. They are so concerned over what we in education are not doing regarding updating and upgrading the skills and techniques and knowledge of our graduates and their employees. So, the Education

Foundation has literally gone into the act itself. Our magazine is called Data Management: In the April issue is an article, "Preliminary Model Curriculum for Business Systems Emerges," addressing the real world needs. There is an example of "Partnership," but why didn't we do it first?

When I finally had time to read my Business Week last night, dated November 10, I found an editorial to which I must take time to refer. Business Week: The editorial page talks about the broadening of the B Schools, our business schools in our best universities in the nation. Are they meeting the challenge of tomorrow? The point of the editorial is they are not. They are training for today and not for tomorrow. When you realize that by the time a freshman gets through an institution, four years have gone by and much has happened in educational technology. I refer you to that editorial and then, beginning on page 61, there are three pages pointing out that our business schools just are not updating their curriculum as they ought. And finally, from Business Week: An article entitled, "Joining Hands Against Japan:" (pages 108/113)

> "The United States' data processing industry appears to be taking a lesson from its arch-rival, Japan. Faced with the soaring cost of computer research and increasing shortage of computer scientists--(and I certainly know this is true)--the fiercely independent U.S. companies are for the first time pooling some of their resources to combat the growing challenge from across the Pacific. Old notions of pure competition, scholarly independence and limited government support of non-defense research are beginning to give way. 'Companies are almost forced to cooperate,' declares William C. Norris, President of Control Data Corporation, 'it's two minutes before midnight, and if it isn't done, Japan will pass us.'"

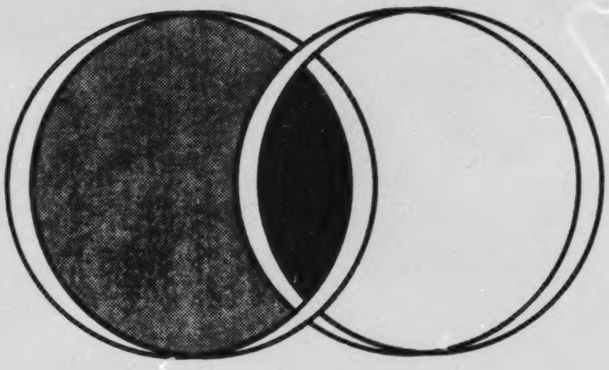
Let me give just a couple examples of the universities that are cooperating. IBM is one of the six companies, along with Xerox Corporation, Burroughs Corporation, currently contributing $100,000 annually and lending a senior scientist to the California Institute of Technology. It goes on to elaborate, "This program is similar to cooperative efforts underway in Stanford University, Duke University, and North Carolina..." I had to read that far to indicate cooperation--partnership.

Now, one more. This, again, illustrates partnership on a high level. Perhaps the most ambitious cooperative scholastic program is taking place at the University of Minnesota, where Control Data, Honeywell, Sperry and Three-M are chipping in up to two million dollars each, to form the micro-electronic and information science center. The center, which will be controlled jointly by the corporate and university officials, will supervise about twenty million a year in basic research and micro-electronics. There is much more. I urge you to read this if you want to be up-to-date on the things that are happening all around us in relation to the technology that is here, if we just learn how to use it.

I'll close with a story on communication, which has been one of our problems nationwide. Regarding communication, education talks one language and we in business talk another. Will we ever get together? Well, here is the example I like to use. It is one of my favorite stories on communication:

> A rural minister was preaching his memorized sermon. As he was preaching that sermon, he thought to himself, "This church is so dark and dim I can hardly see my people out there. This church needs a chandelier." So, at the end of the sermon, he announced that he wanted a meeting of his Board. He said to them just what I've said to you: "You know, this church is so dark and dim, this church needs a chandelier."
>
> Well, the first deacon, the treasurer, said, "We can't afford it."
>
> The second said, "Well, if we got one, the pianist couldn't play it."
>
> And the third one said, "What this church really needs is more light!"

Thank you for letting me discuss with you problems of education.



who shall govern public education?

who shall govern public education?

MILTON GOLDBERG

I am going to speak on the basis of my personal experience simply because I know that better than anything else. It may disappoint you that somebody who works at the federal level does not know everything that is happening at the federal level, but I am afraid that is true in my case. So I will talk about what I know and what I think.

It is interesting in asking the question, who shall govern public education, that the people who sit here, to some degree, represent the major constituent groups or interest groups in the whole issue of public education. There are some people that are obviously left out, parents and students that are not here have, of course, a considerable concern about who governs public education. I assume that most of us who sit up here can speak as parents and we all, I assume, were children, I was. To that degree we can address the question, but it is obviously one to think about.

I thought about the question when I found out that this was a panel and they wanted me to talk about it. My immediate response was who, indeed, shall govern public education when, in fact, the issue seems to be fairly clear on the surface.

Now, I'd like to talk about my own personal experience a bit. I come from a background of school administration. I am a relatively new federal bureaucrat and spent most of my life working in public schools as a teacher, a principal, a director of curriculum and other kinds of central office types, assistant superintendent, various things one does in a local system. Most of those years were spent in the Philadelphia Public Schools, a fairly large system. We had almost 300,000 children, 26,000 employees or more at a given point. I worked through the middle and the late sixties and early seventies when urban education was not only in a turmoil, but was in a turmoil around the issue of who shall govern to a considerable degree.

I spent a fair amount of time working with the state education agency in my local capacity. In addition to that, I worked for the state, for the chief in Pennsylvania, in matters of accreditation of colleges and universities and served on some task forces which reviewed certain kinds of programs for the governor and for the chief and developed a perspective, if you will, about the state relationship with the locals that was somewhat different from the one I had when I worked at the local level. But, the one thing that I developed considerably was an appreciation for not only the state role, but for the state responsibility.

The federal role I saw at that point as essentially the wicked witch of the west. The federal government provided monies for various sources and then made it hard for us to use it. At least, that was my view at the time as an administrator of programs.

When I came to Washington, I came to work at the National Institute of Education, originally as a fellow and then as a staff member and was asked to pay particular attention to the Institute's relationship with local and state education agencies. In other words, to worry about the questions of the degree to which a national research development and dissemination agency could be responsive to the needs of locals and states.

That was an appropriate and an interesting issue to me. I discovered fairly soon one of the problems I had to deal with was what was the meaning of responsiveness. What did it mean for a federal agency to be responsive to locals and states? I spoke to people like yourselves and asked how can this federal agency be more responsive to you? I received different answers. One answer was that the research work the agency does ought to be more directly related to our needs. The questions you look at ought to be questions that bother us. In other words, if you're going to support a research project, is it going to address problems that we're solving now or will have to solve soon? That's responsiveness.

Some others said to me that responsiveness was including us - meaning the locals and states - more directly in your work. Why do all your contracts go to people other than people who work in local and state education agencies? So there ought to be more money, more participation. Another definition of responsiveness was when you decide to give out your money, you ought to let us help you do it. That was another level of responsiveness, as defined by the field. In other words, you or the people you represent ought to participate in deciding who receive the monies that the government gives out.

We had a variety of definitions. One of the things that was clear from my conversations was, however the definition of responsiveness finally comes out, that those definitions had to result from a great deal of regular communication with people who work at local and state levels. From my point of view, most particularly at the state level, that was manageable. We could meet with people from local levels, and we did all the time. But the fact is, no matter how often we did that, we were always meeting with a tiny percentage of all the constituents of the locals. On the other hand, when we met with somebody from the states or from a variety of states, we were meeting with a more manageable percentage of the constitutent groups.

Now let me talk about the evolution of the program which is sponsoring this meeting. The program, the Southeastern Regional Council, came out of some of the work that was done by people who had been working with the states, people like you in this room who had been thinking, particularly, over the years about the role of the states. It resulted from a group of chiefs in the Southeast coming together and saying, "Well, as you worry about the way in which the states ought to participate in agenda setting, in deciding how the money is to be allocated, in actually doing the work of your agency, aren't there ways in which the states themselves can think more explicitly about the issues and actually build a program that addresses these issues?" We're not, or rather, I'm not prepared to evaluate the effectiveness of that. That was a few years back, with the Deputy Commissioners of the ten states involved in this program sitting together to think about how, in fact, the Southeastern Regional Council could address the very particular needs of the southeastern part of the country in educational research and development. There have been a number of other events which have spun out of that concern for responsiveness and I want to come back to that issue of responsiveness concerning the federal role.

Let me talk about my present responsibility and try to use that as a context for defining ways in which I believe the federal government ought to participate in the governance of American education. I have a curious responsibility. My title is Deputy Assistant Secretary for Dissemination and Professional Development. The issue of coordination of dissemination and professional development is a very interesting one. If you look at the program descriptions of just about every major program funded by the Department of Education, Title I, Bilingual Education, Office of the Handicapped and so forth, you find either a line item or line items in the budget or narrative descriptions regarding dissemination and professional development. There is no program that doesn't claim they are doing it. It's sort of like the weather. Everybody is saying they are doing something about it or wants to do something about it.

Dissemination and professional development find their way openly and covertly into just about every program description. The curious thing one discovers is that there is considerable difference in the way in which those terms are defined. In one program dissemination means getting a newsletter out and letting people know on a regular basis about the major activities of a particular program. In another program dissemination means not only getting a newsletter out, but having a set of workshops around the country not only to inform people about the work that the particular office is doing, but also getting some information from the field about their reactions to those programs. I won't go into greater detail because there are both, if you will, limited and more sophisticated definitions of both dissemination and professional development.

In professional development our estimate is there may be as much as three hundred million dollars being spent by the federal government in a variety of ways in the field of professional development. In dissemination, my guess is it may also be in the hundreds of millions.

What does that imply? Well, one of the reasons, for better or for worse, is the fact that we have connected some of these functions to a number of categorical programs. I maintain that one of the problems in providing better professional development and better dissemination in the field today is because we have them so connected to the categorical programs. We have made it very difficult to figure out better ways of professional development activities across programs and dissemination activities. As a matter of fact, the creativity that you have initiated has not, particularly, been enhanced by charge or challenge from the federal government.

We would like to encourage better utilization of resources, better coordination of activities that, we believe, the federal government can and should do to enhance your services. Aside from some of the specific activities that NIE has supported over the years, there has been very little support in the federal government for looking at the processes of these issues in the way that some of you would like. Some of the things we can do can be useful and may have implications for the broader governance question.

One is the need for better information at the federal level than we have. We need to understand when we support certain functions across programs that there are considerable implications for the ways in which you govern. We have not paid nearly enough attention to the effects of those decisions on your governance problems. Having a better handle on the language, on the definitions, and the implications of the way in which we provide support, we need to improve the communication among programs at the federal level. To a considerable degree, communication at our level is a personal business. There is not a great deal of incentive for people across programs to work together for common purposes, and the most essential common purpose is to improve service to the field. There is very little incentive for that because people are naturally too busy running their piece of the action.

Secondly, we need to begin behaving in a way - and this emanated from the first - or rather, ways, that are not nearly so turf-related. I am generalizing and I do not want anybody to leave the meeting thinking that I have said that nobody has ever done any of this before. That is not the case. I am suggesting that some of the things that I'm talking about have been done before, but they need to be done much more explicitly over the next few years. At the federal level we need to begin behaving in ways that are not so turf-related. While we are responsible for program X or program Y, our responsibility is ultimately to the public. While state or local education agencies may be concerned about our program, they are more concerned about making sense out of a variety of programs and governing well as a result. Therefore, we have to have a much better sense of the relationship among turfs than we have in the past.

Third, we need to pay much more attention to and develop a much greater sense of - for want of a better term - a national talent bank for problem resolution. A national talent bank? What does that mean? The fact of the matter is, I have not in the few years I have been in Washington come across any single problem that we have talked about that has not already been talked about in the field, that people have not addressed in one way or another. There is no single problem that we look at that isn't being looked at in one way or another elsewhere. Who is looking at them? Where are they being looked at? Where are the talents that can be brought to bear to solve problems? The national problems. To think that one person or agency or one group can resolve them is just nonsense. It strikes me that one of the functions we can play is to have a much better sense of where the resources are, where the talents are, where the problems are being addressed and help people understand that better. Once having a better sense of that, we can help to improve program cooperation and to build. When I say improve program cooperation, I do not think you accomplish change rhetorically, I think you have to have particular mechanisms in place to get changes accomplished. What I'm talking about is actually providing incentives for helping people to work together, to encourage cooperative problem resolution. What we need to do at the federal level is know where those things are happening and figure out more effective ways of supporting those efforts and leveraging them for our purposes and for the purposes of others who want to accomplish the same kinds of things.

All of that leads to the whole issue of knowledge. One of the legitimate criticisms that people can make about education is that we have not as a profession, not individually and not by group, made good enough use of the knowledge and experience that has accumulated over the years. We have to do a better job of that. I think the federal government ought to play some role in providing the incentives to encourage that. In other words, not every problem needs to be resolved by the seat of our pants, nor should it be. There are very few problems that are totally new. There are situations that are new. There are climates that are new. The problems tend to be old. We have to get a better sense of what experience and what knowledge exists that can help us address those problems. I think that is a role the federal government can play, to provide incentives and support to encourage the field to do that.

Finally, this whole business of providing support and incentives for the field, for the ultimate resolution of problems, doesn't deny in any way leadership responsibility. If one behaves this way, you are fulfilling a leadership responsibility. I do not believe that leadership and influence are necessarily directly proportional to money and power. I think leadership and influence can be exercised in a variety of ways. After fifteen years of a very unique relationship among the federal, the states and the locals, we have reached a stage of experience where we can bring to bear these fifteen years and develop a new era of growth and development. Where leadership for change actually occurs in the field with incentives and reinforcement from the federal government to accomplish that change.

governance of public education in the 80's: will the states abdicate to the courts?

MERLE S. McCLUNG

Since I am a lawyer by training and the topic for this session is "Who Shall Govern Public Education?," I would like to discuss the respective roles of the states and the courts in governing public education. I expect that some or much of what I have to say will not be what many of you want to hear, but if we only talk to each other about things that we want to hear, then we will indeed be living in a very small and precarious world. Therefore the focus of this presentation will be on whether the states will continue in the 1980's to abdicate to the courts their responsibility for many crucial aspects of public education.

The last two decades have been characterized by an increasing legalization of education, frequent state disregard for civil rights, and corresponding judicial involvement in many crucial areas of education policy. All too often this legalization and judicialization of education has engendered the hostility of states and educators who claim that the courts are usurping state authority for public education. This hostility is largely misconceived and counterproductive since, as I will discuss later, law and education are inherently interrelated given our constitutional democracy, and states and educators share responsibility for increased judicial intervention in education policy. Unless new methods are devised to insure a better joining of law and education, the trend toward the increasing judicialization of education will continue into the 80's, and the states in effect will have abdicated even more of their authority over education policy to the courts.

Both historical practice and our constitutional framework make clear that the states have primary responsibility for public education in this country. Since education is not explicitly mentioned in the U.S. Constitution, it is one of the powers that is reserved to the states by the tenth amendment to the Constitution. In fact, public education is one of the most important functions of state government. In 1972 the Supreme Court stated that "providing public schools ranks at the very apex of the function of the state."[1] This primary responsibility of states for public education, however, is not absolute, and the fact that education is not explicitly mentioned in the constitution does not, of course, mean that constitutional provisions like due process and equal protection have no application to education. The Constitution is the supreme law of the land and the states' responsibility for and provision of education must be exercised within constitutional limits. When a state's provision of public education raises questions about wheather these constitutional limits have been exceeded, the courts' responsibility in our constitutional democracy is to interpret and apply the constitution. Therefore the provision of public education by the states and the application of the constitution by the courts are inherently intertwined, and more effective ways of achieving this inherent partnership of law and education need to be developed.

The increasing legalization and judicialization of education undoubtedly has many and complex causes, but one of them is that too much education policy has been developed and implemented by the states without sufficient sensitivity to the constitutional and civil rights of students and other parties, leading to litigation that forces the courts to exercise their responsibility to remedy education policies and practices that infringe upon constitutional guarantees. Once a constitutional violation has been found, courts have broad equitable powers to fashion a remedy. It is at this remedy stage where courts most often become involved in education policy formation and implementation. Where constitutional violations occur, therefore, part of the power to govern public education is effectively transferred from the states to the courts. And where this occurs because the state was unaware of, or insensitive to, constitutional guarantees, it is more accurate to say that states have abdicated than that the courts have usurped their authority over public education.

There appears to be a pattern in state education policy development that tends to encourage conflicts between state and judicial authority. This pattern is characterized by state legislation and other education policy that is formulated with too little regard for constitutional protections. All too often this legally questionable education policy is circulated in other states where it is adopted by legislatures and other policymakers after minor changes are made. That policy thus becomes rigidified in statutes, regulations and policy statements. Litigation inevitably follows. By the time problems are litigated the positions have usually polarized and all parties have lost considerable control over the resolution of their differences. Since the positions have been set, policymakers often find it easier to let the courts overturn or modify the policy than to "lose face" by amending the policy at this stage in the game. The issues at this stage are usually less what constitutes good education policy and safeguards civil rights than protecting turf, saving face, and defending authority to make decisions.

In these situations, sometimes the state prevails, more often it loses; in either case education suffers.

The competency testing movement provides one example of this pattern. In the mid-seventies a few states passed competency testing laws. Within a few short years over thirty states had passed similar laws or adopted similar policy at the state level. Fifteen of these states made passing a competency test a prerequisite to receiving a high school diploma, even though the policy that most of them were duplicating raised serious questions about the constitutional rights of students. In some states these questions led to modification of policy that resolved or at least mitigated these constitutional issues. But other states pressed forward. In discussing these issues with key policymakers in some of these states, I was told that the legal issues would not be clear until a court decided them. Even after the first major case dealing with the major issues raised by competency testing, where a federal district court enjoined implementation of a state competency testing program for four years because of civil rights issues,[2] other states pressed forward. In more than one of these states, I was told by key policymakers responsible for the competency testing programs that even though they agreed that their program probably would be overturned, the political fallout would be too great if they tried to amend the program after initiating and defending it, and therefore they preferred to let litigation run its course and have the courts overturn the program and bear the brunt of the political fallout. And when this happens, as is likely, there will be charges of judicial usurption of educational policymaking, and many will believe the charges, but those who were most involved in the process will know better and will realize that in abdicating their authority they must share some responsibility for the increased judicialization of education.

The assumption that the courts can and should resolve difficult and controversial education issues is one that I shared at least in part until recently. I had thought that some education issues like desegregation were just too controversial and too political to ever be resolved within the political process. But in rethinking that assumption, and the proper role of the states and the courts, it strikes me that while some litigation is necessary, much of it is not, and we too easily defer to the courts. And that deference can amount to abdication. In fact, the most controversial and political education issues are usually the most important education issues, and therefore special efforts should be made to resolve them at the policy level. It is precisely these issues that should be resolved at the policy level if states are to retain their proper role as the primary education policymakers. In this sense courts should literally be a last resort and only after all else fails.

What can be done to make sure that less education policy is developed in the 80's by the courts? Part of the answer, I think, is that states, education policymakers, administrators, and educators at all levels of public education need to help the system practice "preventive law."[3] In law and education as in medicine, an ounce of prevention is worth a pound of cure, and education policy needs to be developed and implemented with a solid grasp of constitutional and legal principles. At both the state and district level, more attention and resources need to be devoted to preventive law focusing on potential legal problems at the policy formation stage. All new education programs initiated at the state or local level should be subject to preventive legal analysis prior to final policy formation and implementation, especially if they will have a significant impact on any of the main participants in the education process (students, parents, board members, teachers and administrators). Some states and districts may already have more than pro forma legal review of proposed education policy, but the record suggests that such review is not practiced often or well in many states. Development and implementation of education policy that is sensitive to the constitutional rights of students and others will make that policy less vulnerable to litigation and to judicial revision.

Preventive law, of course, assumes that educators and education policymakers have a good understanding of education law and a good faith intent to follow it. Some issues will present novel or difficult legal questions that require legal counsel, but all educators and education policymakers should have a solid grasp of basic constitutional principles and be aware of recent developments in education law. Schools of education and in-service training seminars and workshops for educators and education policymakers should emphasize these principles and developments. This understanding is important not only in helping keep education policy out of the courts and in the policy arena, but also for two additional reasons: one practical, and another that goes to the very purpose of public education.

The practical reason is that failure to understand these constitutional principles can lead to personal and official liability and even to monetary damages. The basic principle is set forth in Wood v. Strickland,[4] a Supreme Court case involving the suspension of students from school for spiking punch with malt liquor at a high school dance. The Supreme Court in the Wood case stated that schools officials can be held liable for monetary damages if they knew or should have known that the action they took within their sphere of official responsibility would violate a student's constitutional rights. The Court in Wood was referring specifically to the liability of school board members, but the ruling applies to administrators and teachers as well. Recent Supreme Court decisions also make it clear that school officials can be held liable in their official or personal capacities under a number of federal statutes.[5] And the Civil Rights Attorneys Fees Awards Act of

1976 now authorizes successful plaintiffs to sue for and recover attorneys' fees for their counsel.[6] I remember talking with various education groups in the year following the Wood case, and the question invariably asked in relation to that case was not "What are the constitutional rights of students?" but "What kind of insurance coverage do we need?" The latter is not an unreasonable question, but too little attention is given to understanding student rights - the best protection against liability.

As mentioned, there is a more important reason for developing a working knowledge and everyday application of education law that goes to the heart of public education. One of the primary purposes of public education in this country, and some would argue that it is the primary purpose, is to prepare students to exercise their rights and responsibilities intelligently as students in the school community and as citizens in our constitutional democracy. This responsibility obviously cannot be fulfilled if educators and policymakers don't understand and practice these constitutional principles. As emphasized by the Supreme Court as early as 1943:

> that they [the schools] are educating the young for citizenship is reason for the scrupulous protection of Constitutional freedom of the individual, if we are not to strangle the free mind at its source and teach youth to discount important principles of our government as mere platitudes.[7]

This goal is far from being realized, as indicated by the continued resistance and hostility of many educators to Supreme Court decisions that affirm the constitutional rights of students. The Goss v. Lopez suspension case[8] provides a good example since it is often cited as proof of unnecessary judicial interference in public education. But how many educators have actually read the Goss opinion? If they did they would find an opinion articulating great deference to the realities of administering discipline without disrupting the educational process. The Court's holding was limited to a requirement that before suspending a student for one to ten days the school official, absent extraordinary circumstances, must (1) give the student effective oral and written notice of the evidence and the charges, and (2) give the student an opportunity to explain his or her side of the story. In most instances these minimal due process requirements can be handled in a few minutes and represent the minimum steps that any fair-minded school official would take in any case before suspending a student.

In this educational sense, then, the courts and their decisions can and should become an integral partner in the educational process. A 1978 study[9] by Raphael Nystrand and Fredrich Staub undercuts the popular thesis that the courts are usurping the policymaking roles of professional educators and board members. Although admitting that the evidence at times is mixed, they conclude that the Court's role "has been essentially conservative, rooted in precedents, mindful of constitutional requirements, and respectful of the professional qualifications of educators."[10] A similar conclusion was reached last year by Charles Faber and Don Martin of the University of Kentucky after reviewing 110 Supreme Court rulings since 1954 that have had a substantial impact upon education.[11]

In conclusion, if states are to fulfill their traditional legal responsibility for education, they must do a better job of developing and implementing education policy within our Constitutional framework. This argument is reinforced both by practical considerations of legal liability and by the higher ideal of preparing students for citizenship in our constitutional democracy. The alternative is continued and even increased reliance on the courts to develop and implement education policy.

FOOTNOTES

[1] Wisconsin v. Yoder, 406 U.S. 205, 213 (1972).

[2] Debra P. v. Turlington, 474 F.Supp. 244 (M.D. Fla. 1979).

[3] For more detailed discussion of preventive law, see Footnote 24 of July 1980 issue of Footnotes, the newsletter of the ECS Law and Education Center.

[4] 420 U.S. 308 (1975).

[5] For example, successful plaintiffs can recover money damages under 42 U.S.C. Sec. 1983; 2000 (e) (e-2); 20 U.S.C. Sec. 1401; 29 U.S.C. Sec. 621, 794.

In Monell v. Department of Social Services of City of New York, 98 S.Ct. 2018 (1978), the Supreme Court held that local governments and their subdivisions could be sued under Section 1983 of the Civil Rights Act of 1871, and local government officials can be sued in their official capacity as "persons" under Section 1983. And in Maine v. Thiboutot, 100 S.Ct. 2502 (1980), the Supreme Court held that Section 1983 applied not only to constitutional violations but also to claims which are based solely on statutory violations of federal law. The Court in the Maine case also held that the Civil Rights Attorney's Fees Awards Act of 1976 authorized an award of attorney fees.

The Supreme Court has also made it clear that local governments are not immune from money damages under Section 1983 merely because they acted in "good faith" and presumed that their actions were legal. In

Owen v. City of Independence, 100 S.Ct. 1398, 1415 (1980) the Court held that the common law immunity for discretionary functions provided no basis for according municipalities a good-faith immunity under Section 1983: the court "looks only to whether the municipality has conformed to the requirements of the Federal Constitution and students." Writing for the majority in Owen, Justice Brennan stated: "The knowledge that a municipality will be liable for all of its injurious conduct, whether committed in good faith or not, should create an incentive for officials who may harbor doubts about the lawfulness of their intended actions to err on the side of protecting citizens' constitutional rights."

[6] 42 U.S.C. Sec. 1988. See, for example, Maine v. Thiboutot, supra note 6.

[7] West Virginia State Board of Education v. Barnette, 319 U.S. 624, 637 (1943).

[8] 419 U.S. 565 (1975).

[9] R. Nystrand and W. F. Staub, "The Courts as Educational Policy Makers" in Clifford P. Hooker (ed.), The Courts and Education in Seventy-Seventh Yearbook of the National Society for the Study of Education, pt. 1 (1978).

[10] Id. at 52.

[11] C. Faber and D. Martin, Jr., "Are the Courts Becoming Too Involved in School Affairs?" Contemporary Education, Vol. 50, No. 4 (Summer 1979), pp. 189-94.

who shall govern public education?

RUBY KING

Teachers intend to take their rightful place through their professional associations in the governance of education. In fact, the involvement of teachers is not something new. Teachers have been talking for a long time with administrators and boards of education. The problem was that early on in the conversation the end product resembled very little what was talked about at the very beginning. So, teachers press for a change. In many states, then, there came the advent of collective bargaining. While I know that is a painful word to many of you in the room, it did force administrators and boards of education to begin to listen clearly to what teachers had been trying to say. When teachers talked about class size, instruction, the improvement of staff development and the quality of teaching, the boards of education said, "Oh, no. We'll only talk about working conditions and salaries." Teachers again pressed for a change in that posture and those changes are occurring.

The National Education Association has pressed and asked for a Department of Education for many years, but it was not until teachers put their collective political strength behind that effort that the department became a reality. Now, education, along with other cabinet-level people, has taken its rightful place in the governance of education.

Since the Department of Education is in place, it is now time for teachers to launch a new major offensive. In the quest to assume its rightful place in the process of who will govern education, teachers plan to say very clearly and very comprehensively what a teacher should know, what a teacher should be, and what a teacher should look like to be a professional, competent educator. It is very clear that no one has, to this point, made a concise and clear definition of what professional excellence really is about. We are going to use our best knowledge, experience and wisdom that we can muster to make that statement. We will use the 1.8 million members of the National Education Association and the United Teaching Profession to assist teacher preparation institutions to make the changes necessary to produce a competent, professional teacher. About this major offensive you need to know that we are deadly serious, because teachers, while we recognize and sanction the legal authority of local and state school boards, also recognize the sanction that until teachers take their rightful place on the ship of who will govern education that ship will surely go aground.

We, the teachers, have long sat as spectators in the governance of education. In assuming that spectator role, we have permitted everything and everyone to put his or her two cents worth into who ought to govern education. That was in the past. We, also, intend to pull our chairs up to the table and talk about who will govern public education. Anyone who has a real problem with that, I guess, is just going to have to have a problem.

I ask you, who has prepared him or herself to teach? Who are the persons who know first-hand what the process of learning is about? Who are the parents who work as educators and, also, pay taxes to have their children educated? Who are the members of the largest professional organization in his or her community? Who, above all, receives all of the blame for what is wrong in education? Who would be best prepared to educate educators? I submit to you, it is the teacher through his or her professional organization.

Thank you.

who shall govern public education?

CHARLIE G. WILLIAMS

Earlier, the term leadership has been used in this session. I have in my notes a definition of leadership that fascinates me. It defines it as, "Leadership is one's ability to take one's perception of reality and convince others that it is in fact reality." And I guess probably what we are doing in this conference is looking at ten southeastern states, trying to make some judgment regarding the history and the reality of those decisions. We are also looking at the present, and trying to plan for the future.

One of the issues is "Who Shall Govern Public Education"? A Chinese proverb I read applies to this part of the nation at this juncture in its history. The proverb says:

> "If you plan for a year, plant a seed.
> If you plan for a decade, plant a tree.
> If you plan for a century, educate the
> people."

The real crux of the matter here at this conference and in the nation is to educate all the children of all the people.

We excluded in the past at least 35 to 40 percent of the children: handicapped children, poor children, black children, and children who were vocationally oriented, not academically college-bound. In the recent history of trying to overcome at least a century and a half of operating a system of exculsion, we have made many decisions. In some instances the courts have ended up refereeing the decision. Educators did not abdicate their responsibilities, but we must remember the courts, as well as other facets of our American society, have changed within the time frame of recent history.

I think what we are talking about is the concern that is rampant in the Southeast as well as in the nation as a whole. Since only in the last 10 to 12 years have we truly made an effort to provide public education for all the children of all the people, one could argue that the incumbent decision-makers have not done a very good job. But in truth, it is probably more economic, political, and social, than it was educational decision-making. As we look at the desire and the purpose of this conference, to pick up the pace of that progress we have made in the last 10 to 12 years, one of the real issues is to challenge the decision-makers in the governance of public education in this nation. I am not sure that the problem truly is who shall govern - not at this particular point in time - but how well we shall govern.

We might do well to remember that American public education is a unique enterprise. There isn't any other delivery system in the world comparable to the decision-making process in American public education. Alluded to already was the provision of the Federal Constitution. It is a part of the governance of all the decisions affecting Americans. Federal laws, which are also a part of that governance, state constitutions, state laws with its legislatures, state boards of education, state departments of education, local boards of trustees, local administrators and local teachers, are all a part of the governance of the complex system of American public education. Each has its own role in the decision-making process. The framers of public education never intended that the federal government make all the rules or regulations or the decisions. Neither did they intend that the state government or that the local board of trustees make all the decisions.

Our biggest problem, as I assess it at this point in our own history, is that we have never really understood the true concept of the governance of American public education. We live under some myth that there is something called local control and that all the decisions were to be made at the local level. It really was never intended, in my opinion, that either the local board, the local administrator, or the local teacher make all of the decisions. We live in a syndrome of thinking that everybody who has even a legitimate role in the governance of American public education is meddling in somebody else's business. This is the way we seem to go about it. The principal deals with the teacher and she thinks he is meddling. The superintendent deals with the principal and he knows he is meddling. The board in giving direction for the superintendent is accused of meddling. The state department and state board in its rule-making authority is viewed by the local board and the local superintendent as meddling in their business. We know that when the federal government gets involved through legislation that they are meddling in our business. And that's the syndrome.

It is important that we clarify that the question is "Who Shall Govern Public Education"? I would submit to you that probably the basic structure for the governance of public education in a democracy is not going to change appreciably in the near future. What we are challenged with is trying to recognize and accept the complex structure of decision-making in the governance of this complex system. It is absolutely imperative that we recognize the constitutional provision for American citizens, which is not nearly as clear as it would be inferred. Of course, you get court decisions where one court overrules the next court on constitutional provisions and challenges. Yet, the educator should be able to develop policy that would avoid that maze and complex decision-making process.

It is important that we understand there is a legitimate role for the court when those who have a legal governance role in education have violated anyone's constitutional rights or violated the law. I do not see that as a part of the American governance of public education. It is a way to ensure that those who have governance authority exercise it consistent with the United States Constitution and consistent with the laws of the individual states.

We have two tremendous challenges. Each state at this point in its own history is trying to look to the future to ensure that the next generation of children are educated to the best of their abilities. The first challenge is to recognize that there is not a single governing body in American public education. The state board, state department, local board, state legislature, state constitution, federal constitution and the classroom teacher all are a part of the decision-making process.

As I listen to those that challenge the governance role of different people, I'm not sure we fully understand that in a democratic nation it was never intended that any one body have all of the authority to make all the decisions about something as crucial as children's education. There have been times when we might disagree with some of the decisions that are made, but not the authority to make them. We may never have attacked the problem of educating children of migrant farm workers, who move on a week-to-week basis, if the federal government had not moved in and taken the leadership role. I have no research to support the time estimate, but without Title I, we would probably have taken 50 years to provide educational programs for economically and culturally disadvantaged children. Somewhere in the evolutionary history of American public education we would have gotten around to it. It would not have come nearly as quickly as it did without the federal government's leadership in attacking a blight on the American system. Sometimes, when we do not like the involvement of the federal government, we like to assume a posture that they do not have a role in the governance of American public education. But there is an appropriate role for various decision-makers in all arenas.

The second big challenge is that we have to involve others in the decision-making without abdicating that role. As we move to implement this new system of education, of trying to educate all the children of all the people for the first time, various special-interest groups, single-interest groups, have evolved. You have the rich fighting the poor, indicating too much of the taxation is going to educate a subpopulation. We have a need to make sure that we hear all of the voices that want to be heard without abdicating the legal decision-making process. If you separate the governance decision makers from those who would shape decisions, I am not sure we have been diligent enough in ensuring that all of those voices are heard without abdicating the governance authority in the process.

As I said earlier, I do not really believe the major issue at this point is who shall govern this massive system as much as it is trying to coordinate the legitimate roles of all the decision-makers by law or constitution. If we look far enough down the road, we can meet both of those challenges. We can recognize there are other legitimate decision-makers who are more active than ever before. We are more sensitive, more conscious and more desirous of providing the people a better system of education and blending these decisions together. And we can learn to hear what the decision-shapers have to say without abdicating our responsibilities to them at some point in the near future. Then, and only then will we begin to realize "Who Shall Govern Public Education"?

who shall govern public education?

ROBERT C. RICE

Education seems to me to be the epoxy which holds our culture and society together. I suspect as we enter this 21st century, or prepare to enter the 21st century, we cannot even come close to predicting the problems that we will be facing or the kinds of governance which we will require in public education. With all the criticisms that have been directed toward public education, I think that the public taxpayer has really gotten the biggest bang for the buck that they have spent on any public agency.

The school's inability to handle today's problems, the basics and the new technology seem to be pressing down hard on us. All we have to do is take the opposite of a futurist and go to the historic aspect of public education and look at the number of people that we have educated and the level of literacy in the United States today compared to 1900. In the early 1900s, we were at a level of having a literacy level of about four and a half years of schooling; we were probably spending 90 percent of our time, or perhaps more, teaching the three R's, the three basic instruction areas of reading, writing, and arithmetic.

Today, through the governance of public education and the expectation of our publics, we are asked, and many times directed, to feed students, check their eyes, check their ears, check to see if they have scoliosis, instruct them in the free enterprise system, integrate our neighborhoods, provide recreation, teach them safe driving habits, and sometimes being expected to control drugs in our schools. We are also being asked to assist the education process of all youngsters with handicaps from birth to adulthood, or into adulthood. When we get concerned about where we are and how poorly we have done, I think we need to go back and take a sound look at where we have been, where we are today and what we're doing and the total developing process of our nation.

One of the greatest faults we have at the local level is that we get tied up with so many of the problems: from the classroom teacher being involved in preparing to teach reading and collecting milk money and taking bus duty; to the principal, not only monitoring the classroom teacher, but attempting to hold his building together and still coordinate his efforts with what's happening in the district; to the Superintendent attempting to set some direction at the local level and respond to all the special groups that are there and, at the same time, deal with an elected or appointed board of education which is to set policy. I find that if I am in the position of trying to mollify the pressure groups or individual board members, I have absolutely no time to provide educational leadership. Maybe, that is the most single issue that ought to be addressed as we look at who is going to govern education in the future. I am not too sure that the governance that we have for public education today is not the right kind of governance but may simply come down to, as Milton Goldberg has said, being responsive, being able to communicate. All of the parts may be there. We just may not be making them work appropriately at this time in our history.

I would like to quickly touch on the two areas that I have only outside experience on, the federal level and the state level. I think our federal governance should be limited to access, equity, national defense, and practical development of new approaches to solving educational problems. Another way of saying this is that the greatest role our federal government has in governing public education is to protect the constitutional rights of access and equity, regardless of race, sex, age, or national origin or economics.

The national defense becomes important in that our best national defense, I believe, is to have an enlightened citizenry. If there are issues that need to be addressed from that perspective, they should be handled from the federal level, or mandated from the federal level, and then slide down through the state to the local education agencies. I believe that the federal government has, in theory at least, at its hand the best means of collecting the best data. Again, Milton Goldberg said that they need better information and better data. That is probably because we breakdown at the lower end. I am not sure it is because the bureaucrats breakdown in Washington. If we put garbage in there, that is what we get back out. I do agree that the federal government needs to provide the incentive and the stimulus for state and local action. I believe, also, that the federal government can play a role in investigating and determining some of the better solutions to general education problems. I see nothing wrong with them, at that point, of turning over where state and local districts cannot handle it to the free enterprise system, the private sector, the solution of some of these problems. The reason is that if there is a buck to be made, somebody is going to figure out an answer quicker than those of us that are in the bureaucracy ourselves.

As for state governance, the only concern that I really have with state governance is that it appears to me that we are tending to move more toward the compliance aspect from state education agency than we are from the technical service. The states are being able to provide or open the door for the resolution of problems at the lowest level.

That is where you meet the students coming through the classroom door. We get involved with attempting to deal with legislatures and legislators who have very special interests and who many times use education as a way of winning votes, not as a way of providing a better quality of life for our citizens. At the state level the governance should come in, what I would call broad brush stokes, with policies and directions and then assisting where local agencies are not able to carry out the programs that will best meet their needs. In Louisiana we have 66 school districts and, I would venture to say, that there is no one school district which will approach any problem in the same fashion. The state departments need to come closer to the stronger allies than they have, the National Institute of Education, the universities and colleges, taking advantage of those people who are in the glass houses and have the tools about them to try to develop solutions to our problems.

At the local level we are so tied up with the day-to-day kinds of activities that it is very difficult to be able to sit back and catch enough time to develop new approaches. Once we do develop, or are fortunate enough to develop, the new approach, we do not have all the necessary tools that we need. It is interesting, too, as I was giving some thought to this, in the early 50's there was a press then that there should be some federal dollars coming into local school systems. We have now gone, in 30 years, from a request for a very general kind of support for local education to a very specific, categorical grant kind of program.

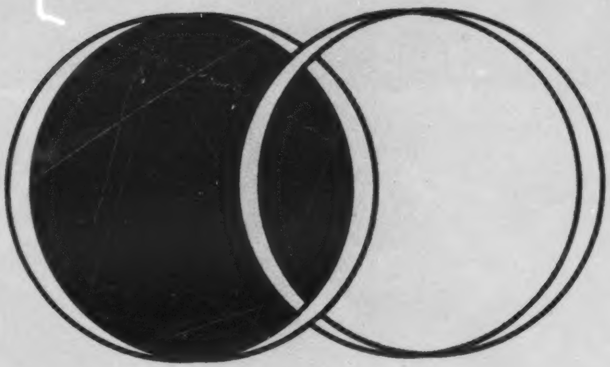
Contrary to the feeling that all decisions should be made at the local level, I still maintain that a large portion of those decisions should be made at the local level. We have to have the state and the federal in order to have a functioning United States. Too many times at the local level we have abdicated our responsibilities and have asked someone else to make the decisions for us. Education is carried on fundamentally at the local level. I have seen very few students in Washington at the Department of Education. I see very few students at the twelve story building in Baton Rouge. I see a lot of students at the local level. And we all know that. The point is, decisions have to be made, or the governance has to be made flexible enough that local governing bodies, boards of education, can meet the mandates as they best fit that local situation. The local governance has some faults to it and, as I said, has abdicated their responsibility. However, the structure, again, is there.

From the local perspective we simply need to shift from the reactive governance to a proactive governance. We tend to react to a problem after it is discovered. We attempt to mollify or resolve the problem rather than identify the problem in advance. Many times, I really believe, local education systems do identify the problems in advance, but are stymied at resolving those problems because of the special interests in which elected or appointed school board members have to deal, or because of the ineptness of a superintendent.

I have tried to give some thought to how local policy makers or governing boards, those people who are there, might better represent the community and reflect the needs of the community. As I looked and tried to figure out how to represent all of the areas, minorities, the industries, the aged people, the parents, the teachers, and then the other special interest groups, whether they come in the form of the John Birch Society or the churches, the other pressure groups that we have that will develop either for a single issue or carry on for a long period of time, I really cannot figure out another way to govern our local district than the elected people. Then, I guess, you turn around and say, "Well, you got what you deserved, if you are elected by the public." I think that is where the leadership within the school district, the professional leadership, has fallen down. We have not continued to communicate and to be responsive to those people in our school districts on the local level, nor have we done a very good job of educating board members on what the role of public schools are to be or are not to be and what their role is as a policy maker and an elected delegate of that community. Sometimes, the easiest way for a superintendent to survive is to not exercise any leadership at all at the local level. I presume that takes place at every other level as you move up, whether you are in the university or at the state level or in the federal government. The role of a mollifier leads to mediocrity. We need to turn and come back to the very basic level of our local school systems, come back and get our teachers to understand how education is governed. Irregardless of how they now feel about pulling their chair to the table, to take their rightful role, whatever that is, in the governance of education. I would submit that they too have abdicated their responsibilities in the past as local superintendents and boards of education have done.

We are all in the same game. If we do not have students to educate, none of us have any reason to be there. We should be looking for the cooperative ways of addressing our problems, rather than trying to divide our ways because of the faults or the weaknesses of another level. I have seen very few school systems who do not have a good local board of education or a good superintendent or good principals or good teachers. I would submit that at any one of those levels, it doesn't matter how good your state department is or how good the federal government is at giving you information, if you cannot make education happen at the local level and in the classroom, we will not have an educated citizenry.

We are bombarded by many, many factors, including the technological development. In public education we are probably the only area that everybody has had a little bit of experience with, not all of us have been attorneys or state superintendents or an elected official in a state or federal government, but most of the decision makers have had some experience with education. Anytime you get a little bit of experience with it, you think you know all the answers for a particular situation. There are too few people who are taking the initiative to take the wide look, the panoramic look of education and providing leadership to resolve the problems that we have. We need to be able to develop the mechanism - and I don't have a panacea for the development of that mechanism - in providing for all of the various pressure groups, the individuals, whether they be with the ERA or sex-education or textbooks, or whatever it might be. Training our education people at the lowest level, classroom teachers and administrators in those local districts along with local school boards, to be able to communicate and to understand what these groups are saying, and then to be able to interpret that without compromising the principles of a sound educational system. I think the whole process is difficult, but it is not impossible.



the vocational education/ceta school-to-work connection

the vocational education/ceta school-to-work connection

JOSEPH G. FREUND

As administrator of a state-wide vocational education program, I can enumerate many studies such as Welms, Egginton, and GAO that have been particularly critical of vocational education. Perhaps part of the problem has been brought on by ourselves. We have sold vocational education as having the capability of preparing students for work. More specifically we have been put into the situation where the number one criterion of success or failure of the educational program has been made the placement of students on the job in the area for which they were trained. No other part of the educational process has that accountability. Students with two years of chemistry are not expected to go into the chemical industry or into higher education in a field of chemistry. At least, we don't measure the success of the program by a report on the percentage that do follow that path.

I am not saying that this is not a noble objective. I guess what I am saying is that if there is an objective of vocational education, we ought to quit giving it lip-service and put a system into operation that will succeed.

Why is this a noble cause and what conditions have brought about the need for an educational system to prepare students for work? Additionally, why is the need paramount in the Southeast?

If we look historically at the Southeast, we see a picture of an underdog. Historians often point out the economic ramifications of the Civil War. The period after the war, for almost one hundred years, saw little change. It was an agrarian society with some emphasis on the low paying textile industry. The average income was well below national average. Teachers were paid considerably less than their Northern counterparts. Per student expenditure was lowest in the nation of any region. The jobs that were available required minimum education. Our Northern neighbors had the heavy industrial jobs and a means to train their citizens, or immigrants with the training settled in those areas where their previously acquired skills could be put to use.

However, now the pendulum is swinging in the other direction. Industries that are wanting to expand are looking for a more suitable climate. Although we are referred to as the Sunbelt, it is not only the favorable weather conditions that they are seeking. Many of them saw a large pool of unemployed or underemployed workers that could meet their needs. They also noted a more favorable taxing climate. Fortunately, they also saw the willingness of many far-sighted Southern states that said, "Our people can do more than work in the fields and sew clothing." Even though these are noble professions, an economy needs to have a broader base. The far-sighted people said, "If your company moves to the South, we will train them."

As these commitments were made, another extremely important change was occurring, a technological change. What had been a relatively simple training problem eventually changed into a rather complex training program. This changed affected Southern states and Northern states as well. The number of unskilled jobs gradually decreased until it is now said to comprise only five percent of the total. Concurrently, the bubble of the college degree as an automatice road to economic success was starting to lose some of its air as specialization in the work force became more prominent. Now we are at the point that only 20 percent of the jobs in this country require a college degree.

Coincidental to the technological changes of the last 20 years, we have also seen an unprecedented growth of social awareness, social conflict, and social change. We became aware of an inequality of opportunity for minorities, females, and those with handicapping conditions. The importance of social justice and the quality of life became a paramount issue involving a much broader spectrum of the population. The number of dropouts from our schools because of unnecessary barriers, irrelevant curriculums, inadequate counseling and a host of other factors became an issue. It became a social issue and now it is also recognized as an economic issue.

Because the South has joined our Northern neighbors as a center for diversified industry, we share the problems of rapid technological change, inequality of opportunity and economics. It has become a national problem. As a national problem, we have seen a number of massive attempts through federal government intervention. Such efforts took the form of the Manpower Act, the war on poverty, Job Corps and now CETA. All of these efforts have been directed toward solutions after the fact. These programs sought a short-term solution to an existing problem area. They did not address the cause of the problem. They worked at the pool of problems while the stream into that pool continued to flow. These programs worked outside the established system for change in this nation, the public school systems.

As educators, we might ask ourselves, "Why has the emphasis to solve these problems been placed outside of the existing system?" There can be many reasons, but we must come to one final conclusion. The policy makers are saying "You have fumbled the ball; your inflexible system cannot gear up to meet this problem."

While the federal government has put funds into the educational system directed at the disadvantaged, handicapped, and vocational education, the amounts have been relatively small. In fact, the amounts were so small that they did not induce states into a total change of effort. Education for the handicapped has significantly changed, but if court cases can be used as a criterion, it was the Rehabilitation Act rather than P.L. 94-142 that brought about change.

If we look at the Vocational Education/CETA training programs in existence now, what do we find? As you know, CETA is funded through a system of prime sponsors. These are local governmental systems, primarily cities and counties with some consortium efforts. I don't want to confuse or include Public Service Employment (PSE) because vocational education needs have only minimal involvement in PSE and definitely not administratively. However, as local governments vary, so do CETA training programs. Six percent of all Title II funds are set aside for vocational education. Many good training programs have resulted. However, coordination and CETA paperwork make educational bureaucratic paper work seem like child's play. Additionally, CETA clients receive pay for going to school. This precedent has been established through V.A. fellowship, and several established sources. However, CETA provides people with luncheon money, transportation money and other expenses in addition to their regular salary. This is a poor practice because that is not what happens in the real world of work. Students need to learn, regardless of what type of learning they do, what to expect when they actually get a real job. Providing them with things that they do not receive when they go to work is not the way to discipline them for work. The funding of vocational education programs by CETA can be compared to Medicare funding medical services for a specified group. However, the managers of Medicare have not been known to tell the surgeon where he should make the incision. In some CETA funded programs, this happens. Medicare also pays the existing rate for services. In some CETA funded programs, this has caused problems. The program has worked despite all of this. The most successful CETA operation is the institutional training through the existing Vo-Tech system.

CETA also has a Youth Employment and Training Program (YETP). Twenty-two percent of all YETP funds must be spent on in-school youth. Services such as outreach, assessment and orientation, counseling, career guidance, services to help them retain jobs, and supportive services such as transportation assistance, child care, and many more can be provided. Many of these services are contracted to be performed by the school. In some situations, a high school student is paid to go to school. This runs contrary to all existing values and causes a great deal of problems with students who are not paid. Some youth employment and training programs serve out-of-school youth. In order to qualify for a training or employment program, it is necessary to dropout of school. Some students have been induced to do so in order to meet eligibility. This is a problem induced by working outside the system.

Despite the efforts both within the system and outside of the system, there is still widespread unemployment, lower productivity, poor quality workmanship, and skilled jobs left unfilled. Currently, other nations such as Japan and Germany seem to have been better able to solve this problem. The American economy has grown stagnant. We have become a society concerned with consumption rather than production. Our balance-of-payments is staggeringly in the red. A continuation of this trend will have catastrophic economic results. The catch-word of the day is reindustrialization. However, there cannot be a long-range solution to the required reindustrialization of the United States without incorporation into the existing public school system an extensive program aimed at basic and vocational skills.

I propose that at the junior year of high school, every effort be made to have a student choose between either a college preparatory program or a vocational program of the institutional or cooperative education type. For those students who are completely alienated from the school system, a program of employment in either the private or public sector, but which would be operated by the public school system in order to assure a smooth transition from school to work. The student would still be required to participate in education for about eight hours every week. They would still take basic courses in mathematics, communications, and social studies to develop self-sufficient and effective citizens. I am proposing doing away with the general curriculum. As Governor James Rhodes of Ohio said in a commitment to solving the problem, ". . .a 'general' course in high school leads only to 'general' unemployment."

Critics of such a program may claim that this will lock a student into one tract. They may also claim that a student is not ready to make a career choice at age 16. In essence these students are making a choice - not to choose. For most students in the Southeast, high school is terminal education. For many more, their formal education ends before graduation. If society needs trained workers, it must be done in high school for most. A student is not locked in with a tentative career choice. Youth graduating with an in-depth program in vocational education have met all of the requirements to enter college.

Students' success in college correlates highly with previous success in school rather than the type of program or set of subjects taken. The student with an in-depth vocational program is also better prepared to enter a postsecondary vocational-technical program or some type of apprenticeship.

Of significant importance is the program offered to students for this transition from school to work. A broad program in terms of interest, abilities and opportunities for employment must exist in the traditional institution or in a cooperative education program. While cooperative education has many strong points because it simulates an actual job, experience has shown that in those jobs requiring a great deal of skill and related technical knowledge the institutional training is more effective. Cooperative education has been most successful for youth with low motivation and most cost-efficient in occupations that employ limited numbers. Therefore, the institutional program needs to offer many alternatives. A program that limits students to auto mechanics, construction, agriculture, and secretarial can hardly be called a vocational program. The traditional approach in a small self-contained high school will not meet these needs.

The vocational training component is just the capstone experience to providing career mature students. In addition, students will need experiences in career awareness, career exploration and career counseling before and during this experience. Additional services need to be provided by other agencies such as public health, mental health, vocational rehabilitation, and special education. The employment service needs to be more actively involved in the job placement component.

Postsecondary vocational education needs to be upgraded and expanded to serve some students at higher and more sophisticated levels than they acquired in high school. A program of articulation needs to be implemented for a smooth transition from secondary to postsecondary without repeating previous learning experiences. Additionally, provision needs to be made for adults who did not receive any secondary vocational training, for upgrading and retraining of employees and for specific skill development for new and expanding industries.

If present trends continue and the Sunbelt meets this challenge, what can be the result. During the eighties, the South will no longer be below the national average in individual income, our teachers will be among the best paid, and our expenditures per student will rise. We can lead the nation. We will no longer be the underdog. We will be that lead dog.

the vocational education/ceta school-to-work connection

LYNDA A. HART

We Americans are a people who have committed ourselves to "catch phrases" and "buzz words" in our effort to communicate with one another those concerns, fears, and desires which gnaw at the very core of our beings - both as individuals and as a nation of diverse individuals. It is the commonality within us that causes us to seek the commonality among us.

I am here to share with you some thoughts with regard to the vocational education/CETA/school-to-work transition, perhaps the latest in a long line of catch phrases to express our collective concern - as well as our collective desire - to supply a missing line in the educational process: the ability to go from school to work. In the process of sharing these thoughts, I will likely touch on most of all the catch phrases and buzz words which have evolved over the past two decades, not to mention the myriad of acronyms which stand for our efforts - CETA being perhaps one of the better known but least understood of the latter.

For those of you who may be wondering what CETA has to do with education - much less, its future - you must consider why there is a CETA in the first place. CETA is precisely what its name implies: a comprehensive employment and training delivery system - jobs and skill training - which functions either as a free-standing system or in a coordinated, cooperative posture with the educational system. As a free-standing system, CETA offers an alternative to those traditional educational programs which has allowed literally millions of Americans to fall through the cracks and enter the world of work unskilled and illiterate - a world so failure oriented that it was rejected in favor of drugs, crime, welfare and other costly public subsistence. As a free-standing alternative system, dealing with the problems of society, CETA has been of little concern to the educational community which views it largely as a public employment program. Now that the numbers of unskilled and illiterate increase among the more advantaged segments of society; now that the vast numbers of jobless are not all economically eligible for CETA; and now that resources are shrinking rapidly, education finds itself strangely in competition with CETA.

From the very beginning, those educators who have consistently worked with the disadvantaged have literally begged traditional educators to avoid the creation of a dual training system, i.e., to close those cracks. Now, folks, I am not talking simply about the skill training associated with vocational education. I am talking about those skills which prepare a person for success in the world of work. Eighty-five percent of the people who lose their jobs in this country are fired because they do not know how to work:

1. How to show up consistently and on time.
2. How to be careful with materials and supplies.
3. How to get along with co-workers.
4. How to take supervisory instructions.
5. How (or why for that matter) to be productive and contribute to production.

And I am talking about basic and relevant literacy. I have talked with many people in the private sector about the specific problems they have with entry-level employees. One problem that continuously arises in retail businesses is the inability to make change accurately or to compute a simple bill. Technology has helped with the accuracy a great deal but I wonder if these fantastic terminals in grocery and department stores aren't crippling us even more in the long run. And what about the three-man service station or the home-owned restaurant which cannot afford the technology. If you really want to get frightened about our dependence, be standing in line with a week's groceries during a power blackout. Perhaps, I belabor the point, but I want you to understand clearly that the cracks have opened wide and it is not only the dregs of society who are falling through. If you have visions of the CETA participant as a welfare recipient, an unmotivated and undesirable person, your vision is blurred. During FY '80, the Alabama Balance of State Prime Sponsor enrolled some 37,000 people in a CETA activity. Next year, we'll be able to tell you how many applied and were ineligible. Of course, roughly 30 percent were what you would envision as the hard-core unemployed though, in today's economy, that definition, like our vision, has become blurred. I am glad that CETA can help but, as a taxpayer, I regret deeply that there is a need for CETA to exist.

Now that I have shared with you who has fallen through the cracks of public education and why - allow me to caution you with regard to the competitive posture of CETA and education. At this point in time, it is a competition that can readily be won by CETA. Why?

1. First and above all, because public education itself has forced the American public to

consider alternatives. This has not happened overnight - it began at least 20 years ago. The indication for change can and usually does come from without a system. The change itself must come from within.

2. Because CETA, while floundering for a period in the abyss of political manipulation, has significantly changed with the '78 amendments to become clearly the most accountable system in the federal complex, as well as the most flexible system.

3. Because CETA offers a viable alternative to welfare - a bridge from public subsistence to economic independence.

4. Because CETA's target groups are becoming larger - not due to the failure of the CETA system but due to changing economic and social conditions, as well as the continuance of traditional education systems to all but ignore those changing conditions.

5. Because CETA target groups are more vocal and demanding; more politically dangerous and demonstrative. A truism which is historically applicable here: "The squeeking wheel gets oiled." But lest you lull yourselves by thinking these are the raving antics of the 60's and the screaming anti-establishment voices of the 70's, let me tell you it is the clean-cut young men and women who simply want jobs and, when they get them, want to know why they don't have the ability to keep them.

6. And, of course, CETA, at this point in time, has the bucks. It is a return of the tax dollar to the local level where it builds jails and courthouses, sidewalks and cemeteries, where it maintains school buildings and augments lunchrooms and where it increases the educational opportunities afforded by public kindergartens; where it builds industrial parks to attract new and expanding industry, where it builds bridges and roads accessing that new and expanding industry and, finally, where it supplies that industry with itself - persons who have learned the value of work, who have developed those skills which make them productive workers, who have participated in a transitional work experience and who develop a sense of pride, accomplishment and self-worth.

7. Because, finally, CETA is making the public/private connection a concept which has been all but lost during my lifetime of education.

But in a competition where CETA, as a free-standing alternative system wins, the American taxpayer loses. We cannot afford a dual system. I will gladly relinquish my job to an educational system which

- matches training and education to the labor market demands rather than the field of tenured teachers. (It is far cheaper to retrain one teacher than to consistently turn out classes of students for whom there are no jobs.)
- teaches people to fill out applications and to be able to articulate that process to its end - a job.
- teaches people how to be interviewed and put one's best qualities foward, i.e., how to sell oneself to a potential employer.
- teaches people with regard to the nature of the wealth this country possesses and their role and responsibility in creating that wealth, as well as sharing it.
- teaches people to listen to supervisory instructions, to clarify those instructions and to follow those instructions.
- teaches people the value of work and that that value is an opportunity which must be earned.

We must recognize that, when a person is economically self-sufficient, he will seek to educate himself as a whole person. He will seek out the halls of higher education and/or the polish and refinement. But, if you give it to him before he recognizes its value, there is a good chance he will never recognize its value. In our efforts to make things easier for our children, we often deprive them of the essence of living. In our efforts to provide them with more dollars, we have neglected to provide them with the skill to make change. Our efforts have almost become so expensive that there is no need to make change.

Finally, the Vocational Education/CETA/School-to-Work transition. CETA is the catalyst - the transition. While many CETA programs around the country have given up on the educational system, we in Alabama have not. The vast majority of our skill training is accomplished through the educational avenues. We encourage and provide financial support for efforts to meet the labor market demands and potential demand.

However, we have had resistance. Last year, we trained nearly 6,000 public service employees in those skills I have brought to your attention. We did so because the private sector is telling us this is what is missing. I have received literally hundreds of letters from those CETA participants which, though poorly written, convey a singular message: "If someone had taught me this earlier, I would not have dropped out of school. I might not be a CETA participant now." We did this training outside the educational system. The message has been sent and, I believe, the message has been received.

We have involved our educational colleagues on our Private Industry Council which absolutely refuses to spend its money on training which isn't relevant to private sector demands. The message has been sent and, I believe, the message is being received.

One of our largest program activities is our in-school work experience, designed to give in-school youth opportunities to put some experience under their belts before it really counts. The supervision of this program has been left totally to local education systems and it has been nonproductive. The message has been sent.

The CETA connection is a confusing catch phrase because very few people ever see the CETA system in its entirety. If I might, I would give you a brief glimpse:

CETA provides classroom training in skill areas for entry-level employment, including remediation of those basic skills required to accomplish a job skill - for out-of-school youth and adults.

CETA provides on-the-job training in the private sector and combinations of classroom instruction and OJT.

CETA provides upgrade training for persons locked into dead-end jobs and retraining for persons displaced (or soon to be displaced) by technological advances.

CETA provides work experiences in the public sector for in-school youth - and the language is precise - to give youth, as well as older workers, experiences designed to make them more competitive in the labor market.

CETA provides public service employment for the same reason to unemployed and displaced persons. The fact that local communities benefit from the experience is a bonus.

CETA also provides skill training to youth as they weatherize the homes of the elderly, the infirm and the poverty level citizens. They are supervised by the Department of Energy people who also provide the materials with which to work.

I would venture to say that every crossroad in America has in some manner been exposed to the productive potential of CETA. And now that the system has cleaned up its act, its productivity is becoming more apparent. I would like to give you some examples of the connection:

In Bullock County, a predominately rural, very poor area, an industry was fixing to leave because they could not find the skilled labor necessary to produce their product. CETA, in connection with the postsecondary Voc Ed Program, and the industry got together and saved the industry for the State of Alabama.

In Lowndes County, the fourth poorest county in the nation, CETA and our skills training component, which is a part of education, and the welfare program and the industry got together to train welfare recipients to be welders and fill the vacancies in the welding needs of that community. Interestingly enough, these women voluntarily gave up their welfare benefits to be a part of this program, and we are now training 15 welders and have a waiting list of 47. We don't want to overtrain for the market.

We have a very large program which is a combination of developing careers and state service personnel with the Department of Pensions and Security, which is our public assistance agency in Alabama, training people to be homemakers (professional homemakers) to take care of the invalids, the infirm, the elderly, so that they do not have to leave their homes and go into publicly supported nursing homes.

We also have a beautiful upgrade program for the Alabama Institute for the Deaf and Blind and have given a career field to a locked-in job skill called House Parents. This was done through a connection with higher education who furnished us with the training necessary to make these people of a more professional nature.

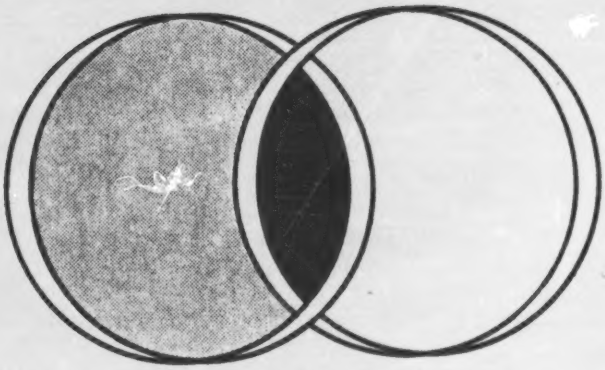
And then there is the one in Eufaula in Barbour County, which is also a poor county, where

> industry and CETA and Vocational Education got together to make a small one-man operated industry into a very large productive industry. We are extremely excited about it. It is one of our better private sector initiatives.

In closing, I would like to think CETA works in Alabama. I have evidence which convinces me of that. I would like to think it works because we, as an employment and training community of which I consider education at least one-half, work together to make it work. By working together we were able to provide roughly $80,000,000 of services throughout rural Alabama for less than 8 percent total administrative costs. Dual independent systems could not do that.

The pendulum of philosophical thought has swung once more in this country. We are facing rewrites on major legislative issues within the coming two years; these have already been mentioned to you. I need not remind you that a conservative Congress will sit on these matters. Dual systems are costly. I urge you, as educators, to diminish the need for them.

Thank you.



upgrading the quality of public school teachers

upgrading the quality of public school teachers

ROBERT C. SMITH

The title of my presentation today is "The Effect of Third Wave Technology on Teacher Education Programs and Program Policies." That particular title, as you know, is based on Alvin Toffler's book, The Third Wave. In that book Toffler identified three great epochs of social change in the history of humankind and used the term "wave" to represent the sweeping changes that these developmental periods brought to civilization. The first of these three waves was the Agricultural Revolution, which took thousands of years to play out; the second was the Industrial Civilization, which has taken about 300 years to play out; and The Third Wave is the Technological Revolution or Technological Civilization in which we are now in the early stages.

Toffler is not the only person to write about the period of technological civilization. Others have described it as the Technotronic Age, the Post-Industrial Society, and the Scientific-Technological Revolution. During this period, instead of receiving our mental model from reality in today's sense, we will be compelled to invent it and even reinvent it from the blipped material shot at us from the now developing media technology.

Toffler in his book also described the "electronic cottage" which is the combined private residence and workplace made possible by microcircuitry in computer and communication technologies. Many people today have electronic video games, microcomputers, home video recorders that are time-controlled, and weather radios in their homes. There are already people in business and industry who carry out their jobs electronically from home. I was talking to one of the representatives of Control Data yesterday, and he said that he does all of his paper work at home with a computer terminal.

Let me briefly review some of the technological developments that will increasingly influence what we do in teacher education. The first two are video information systems known as teletext and videotext.

Teletext is a one-way system for receiving information on the home video screen with no selective control over the specific information displayed. With videotext a person in the home can choose the specific information wanted. View Data, which is a subsidiary of Knight-Ritter newspapers here in Florida, is experimenting with the Viewtron videotext system in Coral Gables. By telephone one can call up information in the home television screen about local news, state news, national news, weather data, sports results, calendar of local events, restaurant menus, lists of adult education classes, etc.

Channel 2000 is an experimental program established by Banc One Corporation of Columbus, Ohio, which is a bank holding company that led the way in developing the electronic tellers that we use today, and OCLC, which is a library information network. From home a customer of the bank can call up his bank statement or tell the bank's computer what bill he wants paid as well as check out books from the local public library, search local college library catalogs and obtain other information which includes instructional programs in math and reading for children and adults.

Electronic mail systems are rapidly developing. The Alaska Department of Education has begun a major project to communicate with school district offices via a microcomputer based telecommunications system because of the great distances involved. The system will transmit not only messages but also data on standardized test scores, attendance records, etc. Stanford University has established an electronic mail system for 40 senior administrative officers who send, receive, and store messages electronically. The person directing the program travels with a small portable computer terminal; and when he is out-of-town, he can call up messages that he has been sent as well as send messages.

Another interesting development that will take place in a few weeks is the launching of the SBS, Satellite Business Systems, satellite at Cape Kennedy. SBS was formed by IBM, Aetna Life Insurance, and Comsat for providing electronic mail service to private companies. I understand that the next scheduled launch from the Kennedy Space Center will be the first of the three satellites for SBS.

Project Green Thumb in Kentucky involves 200 farmers in two counties and is sponsored by the National Weather Service, the USDA, and the University of Kentucky. Participants can access weather and crop information, some market information, etc., through their home video receivers. There is a plan to enlarge Project Green Thumb's coverage to include 150 counties in ten surrounding states.

Lexington-Fayette County Public Library in Kentucky is also planning a home video information system in the videotext format. The system will permit users to conduct transactions with the library through a touch-tone telephone system and their home television screens. Users can search the library record from home, select a book, have that book charged out, and then go to the library and pick it up.

The third wave technology advances in video transmission, video recording, fiber optics, and microcomputers may be moving so rapidly that as teacher educators are pondering the place of third wave technology, especially computers and microcomputers in the teacher education curricula, they might be surprised to learn that the schools are already finding a place for it, which is true in our particular area of the country, the Southeast. Teacher education programs from our experience must act to prevent teachers from becoming, and this is a new catchword, "technologically disadvantaged."

Computer micro-circuitry is the fundamental force behind much of this technological development. Teacher education programs must acknowledge this technology or it will be doing a disservice to future teachers as well as present teachers who must live and work in a technology oriented environment. What must teachers know about the developing technology and computers in particular? How much should a teacher know about computer assisted instruction and computers in general? How best should practicing and future teachers gain the knowledge they need? How does one go about deciding what they need and then how does one go about giving them what they need? Because technological development is moving so rapidly, answering these questions is not at all easy.

The fact is schools are acquiring microcomputers. Some of you may be from school systems or know of school systems and schools that have acquired microcomputers. This is occurring while many teacher education programs have not yet even recognized the need for incorporating the best educational applications of this or other technology into the professional curriculum. Many teachers are confronted with computer assisted instruction and microcomputers without knowing what these systems can and cannot do, without knowing what programs exist and how they might be most effectively used.

There is general agreement among people writing on this particular subject that teachers should have at least a positive attitude toward computers. They should not fear but have an understanding of how computers may be used in instruction on the elementary and secondary levels. Teachers should have an awareness of computers and society in general and they should have some hands-on experience in the use of computers in instruction. How teachers gain this knowledge or not ultimately rests with the administrators of teacher education programs and state certification officers in cooperation with the experts in the technology. There is already some agreement that math and science teachers of the near future should have some basic programming skills and some minimal experience in programming. Elementary and secondary teachers in other areas should at least have knowledge of the applications of computers to instruction and the selection and evaluation of commercially available programs.

Teacher educators and state certification officers may argue that there is not room for computer literacy or literacy in other media in the existing curricula that is already overcrowded. However, the development and marketing of media software, especially microcomputer programs, are rapidly receiving the attention of textbook publishers and many media producers who traditionally handled filmstrips and slide materials are also moving to meet a growing demand that does exist. We can debate whether there is an actual need for instructional software today, but there is no doubt a demand for it and the demand is increasing.

We at Western Kentucky University were totally unaware of the proliferation of microcomputers in the surrounding schools, some within the same county. We recently learned of a local high school that had acquired eight microcomputers over the past two years: three are used in their science program and their program for the gifted and talented students; five are used in a remedial reading lab. In a sense we are just trying to catch up with what is going on technologically in the schools right now, particularly with microcomputers.

Realizing that it would be unrealistic to try to make every teacher a programmer, Western Kentucky University's emphasis is on the running of instructional programs on microcomputer units, general computer terminology, and the evaluation of instructional programs that are available for microcomputers. Microcomputer modules are included in the instructional media courses, which are required for all undergraduates and for graduate students. Beginning in 1981, undergraduates and students in the media classes will work with developmental students, who are assigned computer assisted instruction work in the university's Learning Assistance Center, for experience in dealing with the technology from the point of view of working with students.

Both students and practicing teachers in our program are surprised to discover that computers are sometimes as easy to operate or easier to operate than the infamous manual-threading 16mm motion picture projector. Hopefully, teachers in the near future will not have to depend on fifth graders to operate microcomputers in their classrooms as they do for threading motion picture projectors.

Without first-hand experience the average teacher has an outrageous conception of technology, especially computers, that is provided by movies, television, newspapers, friends, and just hearsay. One erroneous belief is that computers can only teach like teachers teach, so why spend money on them? Another is that they can replace teachers. They may replace some bad teachers but not any good teachers.

Given the proliferation and advances in technology, especially computers, serious attention must be given to upgrading the knowledge and competencies of teachers, or students will have a technological advantage over them. There is nothing worse than a teacher walking into a classroom with sixth graders who already have a definite advantage in knowledge over the teacher.

Public education may also find itself competing rather than cooperating with private enterprise in the educational scheme if educators persist in the mistaken belief that the role of computers in education and the application of other technology to instruction will be finally defined sometime in the future. This may have been a safe outlook ten years ago, but times have changed because the future is now - we are living in it.

upgrading the quality of public school teachers

ARTHUR J. LEWIS

I think it is remarkable how the three papers are going to fit together. It shows the value of our having met several times previously and planned carefully. That's an inside joke, because this is the first time we have known what each other was going to do. I think you will find that the papers will fit very well together. Bob has outlined the need for changes in teacher education because of technological changes within our society. I would like to start by reminding you that society is already concerned with the level of teachers in our schools, and I would cite the article that appeared in the June 16, 1980, issue of Time magazine entitled, "Help, Teacher Can't Teach!"

It is easy to see why the public is concerned. The public opinion poll published in the Phi Delta Kappan for September 1980, showed that 82 percent of the public believe schools are "extremely important" to one's future success; another 16 percent thought schools were important and only 2 percent thought schools were not important to one's future success. That compares with 76 percent who thought schools were extremely important to one's future success in 1973. So, the public recognizes that education is even more important now than it has been in the past.

In the same public opinion poll, 14 alternative ways to improve education were given. They ran the gamut from "more emphasis on basics" to "better discipline." The alternative that received the most votes was provision of better teachers and administrators - ahead of "more emphasis on basics." The public believes it is more important to have good teachers and good administrators than it is to emphasize the basics to achieve quality of education. Now, the question we have is "Will the public's 'demand' for better teachers be met"? This will depend on a series of factors: the supply and demand of teachers, the kinds of teachers that are needed in the future, and the initiatives that are taken to improve teacher education.

My particular role on this panel is to focus on preservice teacher education. This is not to minimize in any way in-service education and the importance of it. I would simply remind you that if you have to keep recalling Cadillacs or Plymouths or Fords because of errors, it is high time that you look at the design of the car.

The number of teachers trained has been dropping rapidly. We reached an all-time high in 1972, with 317,000 teachers being trained. This has declined each succeeding year so that by 1978, only 190,000 were prepared - a decline of 40 percent over a six year period. I would suggest that that number is going to continue to decline in the foreseeable future.

A decline that worries me more than numbers, however, is the decline in quality. A study by Weaver, reported in the Phi Delta Kappan for September, 1980, indicates that the SAT scores for people going into teaching were 34 points below average for all people going into colleges and universities on the verbal section and 43 points below average for mathematics. Seniors who majored in education had lower SAT scores than all other majors except for office clerical personnel. Why this decline? One obvious reason is that given the oversupply of teachers, people realized that teaching was not a good place to get a job. Another reason is the publicity given to "teacher burn-out." Young people thinking of a career hear the word "teacher burn-out" and say, "Do I want to have teacher burn-out happen to me?" Another reason is the increasing number of opportunities available for women and minorities in other professions. This is a very positive reason. But I would remind you that 20 years ago capable women had really only two options: nursing and teaching. I would also remind you that education lead the way in providing opportunities for minorities to move into professional fields and I am not for "turning back the hands of time" on this one at all. But nevertheless increased opportunities is one reason we are no longer attracting outstanding women and minority group members into teacher education. Declining salaries in terms of real dollars is another reason for a drop in both the numbers and the quality of teacher education candidates.

Public attitudes toward teaching as a profession are reflected in a series of Gallup Polls that asked the question, "Would you like a child of yours to take up teaching in the public schools as a career"? When respondents were asked that question in 1969, 11 years ago, 75 percent of the respondents said "yes." But when the question was asked in 1980, only 48 percent of the respondents replied affirmatively. Somehow we must reverse this trend and begin to attract more able people into education. How many of you were teachers at one time? Can I see your hands? This overwhelming response demonstrates that leadership in education comes from the teaching ranks. If we continue to attract into our colleges of education primarily people from the bottom sector of students, what are we going to do for educational leadership in 15, 20, or 25 years?

Although we have talked about oversupply of teachers, we need to recognize that we already are moving into a period of shortages in some areas. A recent study by the National Science Foundation indicates a serious shortage of mathematics and science teachers. Some states may suffer teacher shortages sooner because of policy decisions. For example, in Florida about 60 percent of the teachers hired last year came from out-of-state - we trained only about 40 percent of our teachers. A teacher test for certification has just been legislated. The one-day examination must be taken in Florida and a fee of $25 is assessed. The test requirement will probably reduce the migration of teachers to Florida thus producing an early shortage.

I would like to shift your attention from questions of who is going into teaching and the supply of teachers to a consideration of the types of teachers needed in the future. I see three future developments that should influence teacher education. The first of these is technological developments. Bob Smith did an excellent job of covering this so I don't need to discuss it at all.

A second development is the need for anticipatory learning - a phrase used in the Club of Rome's report, No Limits to Learning. This report shows that humanity faces increasingly complex world crises coming with unprecedented rapidity. The fact is we don't have time to make mistakes - we have to be right the first time. Ways must be found to bridge the human gap between crises and the solution to the crises. Current education, according to the Club of Rome report, is maintenance education designed to help us function effectively with the status quo. But this is not enough. Our schools need to develop individuals who are self-directed in their learning. If schools are to do that, we need teachers who themselves are self-directed. This would be an important shift, because by-and-large our teacher training institutions are not producing self-directed teachers.

Another development is an increasing emphasis on enhanced educational environments. For too long we viewed education and schooling as being synonymous. As a result, in the past all educational problems have been given to the schools to solve. We have failed to recognize that many agencies in our community educate. Last night Charlie Smith helped us see how powerful an influence television is in education. We realize now that the educational level of a community depends upon the total educational environment within that community of which the schools are a part - a very important part. What probably will emerge in the future is a cooperative linkage of the various agencies and institutions that educate. Service-learning is but one illustration of what is happening and will happen in this area. This concept of community-wide linkages is important because the total need for education has increased, but nobody in this conference has said that the financial resources for education are going to increase. This broadened concept suggests that colleges of education should extend their mission by recognizing that not only do they have a responsibility for preparing people to work in education in public schools but in other settings as well.

We move now to discussing the improvement in the quality of preservice education programs. The need has been demonstrated. Bob has talked about the technological need for retraining. I have talked about two other needs for new teacher education programs. Departments of education and state legislatures have already started to work on improving the quality of teacher education. Hugh mentioned the activity in his state. I have referred already to the activity in Florida. Georgia has done work on this. Many states are trying to improve the caliber of their teachers. Essentially, state departments of education and legislatures can deal only with the externals of teacher education. And that is not insignificant, in fact, it is very significant. But we also have to look at what I will call the "internals." Two internal goals for teacher education are: to attract high caliber people into teacher education and to improve the quality of the program. These goals are obviously interrelated. You are not going to improve the quality of the program until you attract high caliber people. You are not going to have high caliber people coming into teacher education programs until they see them as being good, effective programs. Nevertheless, I think we have to examine them one at a time. How can we in fact attract more capable people into teacher education?

I suppose the most important, most difficult, and most subtle thing we have to deal with is the public attitude toward teachers. When only 48 percent of the people polled, and these are people from all socioeconomic levels, say they want their children to go into teaching (compared with 75 percent, 12 years ago) we have slipped, and we have slipped considerably. We must address this problem. You may be thinking, "Well, why don't we go for the people who are committed, individuals who view education as a means to serve humanity, and get those people into education?" Many of you are in education for that reason. I would agree that that's the reason we want to use in attracting people into education. But let me ask you whether or not education offers those people the kind of opportunity that will attract them into the profession? Is a creative person who wants to serve humanity going to get excited about coming into schools dominated by the mission of teaching basic skills, narrowly defined? Most of those people have much broader concepts of education.

Obviously, one of the things we have to deal with - and it is not easy - is low salaries. Inadequate salaries are both a cause and an effect of the public's low esteem. One reason parents do not want children to go into teacher education is because the salaries are low; one reason the salaries are low is because parents, and other citizens, do not value teaching.

One way to secure higher caliber students is to encourage higher admission standards. Many states have already moved in that direction.

Let me come to the part that is closest to home, so far as I am concerned. Some of you may be saying, "All right, you are from a college of education. What about improving the quality of the program? What are you going to do? What are you doing about improving the quality of the program"? The Phi Delta Kappan devoted its entire issue for October, 1980, to the theme of improving teacher education. It is significant that a journal read as widely as the Phi Delta Kappan viewed the improvement of teacher education as being very important to education in general. Some of the articles in that issue indicate the reasons we have problems and what has to be done to overcome those problems. One article compares the cost for educating teachers with other programs in colleges and universities. The cost per year per student in teacher education was $927 in 1977-78. Do you realize that we were spending across the U. S. for K-12 education $1,400 at the same time? In one of the 20 large universities surveyed, they were spending only $578 per teacher education student. The average per student cost per year in universities is $2,363. Let me repeat that for colleges of education the cost per student per year is only $927.

Teachers must be prepared to deal with more complex problems than ever before. For example, Public Law 94-142 places new demands on teachers. Fortunately, we have a greater base of knowledge from research about how to be an effective teacher. But while teaching has become more complex, the time for training teachers has not increased, in fact, in some instances, it has decreased. In 1929, we had 90 quarter hours to prepare an elementary school teacher at the University of Florida, and in 1980, we have 70 quarter hours. Has the job become easier for elementary school teachers? Do we know less about teaching? Are those the reasons the available time has dropped? In 1929, there were 93 quarter hours to train a pharmacist at the University of Florida; in 1980, there were 114 quarter hours.

I am not arguing for increasing the amount of time spent on pedagogy at the expense of general education or at the expense of subject specialization. In fact, a powerful argument can be made for the need for more time in preparation for the subject field than we have ever had before and for more time in general education. So, it is not a question of taking away from those areas to increase teacher education. That is not what we are after. What we want is a really good program of teacher education.

Two places where serious efforts are being made to reconceptualize teacher education are the University of Kansas and the University of Florida. At the University of Florida, we are in the designing stage. We have temporarily removed time constraints. We are determining the components of a really effective teacher education program based on what we have learned about what makes for effective teaching. Once an effective program is developed, we will decide how much time is needed. We plan that a major portion of the program will be clinical and that students will start working in the schools with teachers at an early stage. An internship will be included.

Implementation of the program will require additional resources. It will require the support of legislative groups, of policy makers, and of administrators. The support of organized teaching groups will be crucial. We recognize that such a program cannot succeed unless its graduates secure better positions than those who go through typical programs. It will require faculty members who can adapt and engage in necessary retraining. Such a program should attract better than average students.

Since we are in a conference on the future, we should look at alternatives. Four possible futures for teacher education seem possible. First, we can continue to drift along our present course. This will mean further weakening of public schools, in my judgment, because the people entering and graduating from teacher education programs, are by and large, not as competent as their counterparts 20 years ago. However, I do not believe legislators and other policy makers are going to let the status quo continue. This leads to a second possible future wherein legislators dictate more and more of the external standards of teacher education. A third alternative future is for colleges of education to make some major revisions. B. O. Smith, in the lead article in the October, 1980, Phi Delta Kappan thinks this is not likely to happen. He observes that colleges of education are notorious for their inability to change themselves. And that leads to a fourth possible future which, as you might expect, is the alternative I would hope to see. In this future there would be a combination of external stimulation from state departments of education, from legislators, (as in alternative two), together with self-generated efforts of improvement at teachers' college institutions. I do not think any of us can do this alone. We cannot turn teacher education around without some strong cooperative support. And, like most desirable futures, we are going to have to work to bring this one about - the time to begin that work is now.

upgrading the quality of public school teachers

DON R. ROBERTS

I am pleased to be with you this morning, and I enjoyed hearing the remarks of the other two panelists. Although we did not have time to rehearse or to plan our presentations, I think we anticipated what each other would do.

I know I am taking a chance today because I see some people in this audience who have visited the public schools of which I was superintendent. They know whether I am going to be telling you what I think, or they know whether I will be telling you what I practiced. I believe that I am on safe ground because most of the things that I am going to be talking about today I have practiced. I believe it so strongly that I am attempting to influence many other districts in my own state to practice the same type of professional development, to get the same involvement in personnel development.

I read a study recently about teacher burn-out which we have over-publicized. In this study the number one thing teachers felt most depressed about was the lack of appreciation and the lack of recognition for a job well done. I think there are a lot of reasons for that, one being inability to communicate among ourselves when a job is well done. Predicting success is, I think, sometimes as important as being successful. The second area which depressed the teachers was the lack of support for teachers, as they perceived it, from principals, superintendents, and the public. Dr. Lewis made a point that I had written down about the public's attitude about teachers, and I think before we can improve the quality of public school teachers in our schools, we have got to change our attitude about teachers, and teachers have to change their attitude about themselves. All of us must work to bring about a change in attitude, and I believe it can be done.

Upgrading the quality of public school teachers is such a broad title and such a broad subject. Yet, almost every conference we go to deals with that subject. You can go a lot of different ways in dealing with the subject. Do we want to improve the quality in terms of teachers' health or their strength or their beauty or their knowledge of teacher association benefits? Too often we do not think about it to the degree that it must be related to student learning. The quality of teaching must be improved and upgraded so that we see that more students learn more. Having been an urban school superintendent and a deputy superintendent for a long time, that is the bottom line for me.

I decided the basic theme I wanted to talk about this morning was what John Goodlad recently referred to as "whether we can raise teaching from its present low position to that of one of the higher professions." We have already heard some statistics about what different people think of our profession. I am concerned that in this country we may be falling into a trap of looking at the simple answers or looking at, as Dr. Lewis again called, the "external factors," competency-based education, competency-based certification, and testing programs. Our legislature has just required that we give a test, the National Teacher Exam, or a similar test. Well, without any funds to develop that similar test, you know which one we ended up with, which is not a very innovative approach to improving teaching in the schools of our state.

For the next legislative session, we are considering moving to a criterion-referenced test. Again, I do not know whether the money will be there or not. I am not sure the answer is going to be of significance in terms of students learning more in our state or in any other state. In some of the states in the Southeast people are coming in to assist educators with evaluation, how to develop evaluation schemes as if there is going to be something that is going to do the trick.

What I am saying to you is that licensing, certification requirements, testing, all of those things are the wrong end to start, in my opinion. We must start to improve teaching in this country or we are not going to have a chance to do those other things. I am a proponent of "forward through basics" not back-to-basics, because I do not think we have ever been there for minorities and a lot of other people. We cannot go back, but we can go forward through basics. It is not so much that I don't think all of those things which I do not define as basics are important. Or, not because as an educator I don't delight in seeing any student move as far as they can move, but primarily because we must narrow our accountability down to something we have a chance for success. The public, in my opinion, is past the time when they are going to buy global solutions and global directions for solving problems.

I believe if we are going to have a chance to provide the wide range of educational improvement that we want to provide, we have to demonstrate to the public that we can achieve and improve at least something. And not only we can do it, but we can predict we can do it and that we know why it happens, not that it just happened. It happened because we had professional educators in charge of seeing that change tool place. I am convinced we can do that.

I do think it is important to determine a reasonable level of entry for individuals coming into a profession. However, I don't believe I give it as much importance as some others. I believe in Bloom's "mastery learning" philosophy that somewhere near 95 percent of a group of people can learn about anything or at least that which they have the background for. There is a difference in time and all that. If I believe that about students in the public schools, I have to believe that about teachers and principals. I am not sure we ought to spend all our time and all our efforts on another system of categorization. We have used tests and that worked all right in the 1900's when we were trying to sort out the best. But now we are required to educate all. We must not let our system become one totally of sorting out, and that is really what we are talking about in a lot of the testing and certification. I am not arguing with the point that we must have capable people, but I am not sure that teaching will be improved if we just brought in the brightest in our society. I do not know if you have had the experiences I have had, but some of my most brilliant professors were the least effective in terms of teaching. So, that won't do it all. It is necessary to have adequate intelligence and knowledge and so forth, but there is a science of teaching, and that is what I am really here to talk about. For the long-term, what we need to be looking at is something Goodlad and others have talked about and some of the people have mentioned this morning. We need to be looking at programs that correspond to other professions. We need to look at four years of liberal education and some mixture of two years of professional study including some closely supervised analytical study and some practical experience with children and with students. We need from one to three years of residency in the public schools, if that is where a person is going to teach - at the elementary and secondary level - in order to refine and to develop and to become a full-fledged professional. When that happens - if that ever does happen - we might get salaries to the level that it would be attractive for people to come into our profession. We might have the time and not have to break it down in segments in order to get a reasonable wage, as some of the institutions do. We might have the time to grow and to improve teaching rather than going back to school to get the next degree which is required for advancement. As some people have said recently, we are about the only profession that the degree for entrance is not the degree necessary for advancement. Instead of spending your time to develop your teaching skills and your competence in teaching, you must spend your extra time, or that outside of the classroom from your first or third or fifth year, to the tenth or twelfth, training to be something else rather than to improve what you will be doing for the next ten years.

Well, let me talk a little bit about the model that at least is the long-term goal, as far as I see it, from the state department perspective. The long-term goal, which I do not think we can wait for, is to wait for teacher turnover to create better teachers. Even if colleges and universities started tomorrow providing us with a much higher quality of teacher than they did yesterday, it would take 15 years between those leaving and new ones coming in based upon a seven or eight percent turnover. We cannot wait. There is some argument as to whether the best stay or the best leave and we keep those who cannot move. I don't know. But, I do know that it is probably true that only about half of them are involved in the turnover. So, even 15 years later we still have half of those teachers we started with who have been training to become administrators all that 15 years and have not improved a great deal. So, that is not the answer in the short-term.

The answer in the short-term is we, public school administrators, state departments of education, and colleges and universities, have to go together in a mutually supported endeavor and bring about professional growth in the schools today. We have 26,000 teachers and instructional people in our state. They need help today and tomorrow. They are not likely to go back to school for any length of time. We have to work with them where they are and we have to be willing to commit some resources to do that. We feel that one of the things that has been missing in our teacher education program is the lack of the ability to see good modeling in segments that you can understand and deal with, to see demonstration teaching, to have the opportunity to practice skills in a small enough segment to really improve and to have continuing instructional leadership.

We need the college and university professor and the master teachers to talk with the students about what they see and plan for what they are going to see. I have said before that we train teachers like people train airline pilots without ever letting them get into an airplane, or ever really look at the instrument panel, or actually feel it. I do not want to fly with one of those people that has been trained that way. I want somebody to fly my plane who has tried it, who has flipped all those buttons, who has flown with somebody that I consider a master, who has proven himself, right behind him, or by the side, or in front, or however they do it. We have a situation in teaching where we train most of our teachers without them having access to children, except in a global or a general way. And I do not know what caused the decline of college lab schools. Maybe they had some problems that I didn't know about. But colleges and universities must have a laboratory and I am not suggesting we set up one in each college and university. We have hundreds of thousands of laboratories available, but it means we have to move from where we are over to where the kids are. We are finding in our state that colleges and universities are willing to do that. Many of the people are, but we have some who feel that is below their dignity, I think.

We have many people in the colleges and universities who are willing and realize that the need is to get into the public schools of this country and help the people who are there. They know what they are going to do when they get in there, not just come by to tell us this favorite thing, or the hottest item out, but to know what that school district's goals and objectives are and know how they can help that school district, that teacher, accomplish those goals and objectives.

We are beginning to see that happen. Consequently, to utilize the staff that we have at the colleges and universities effectively, they have got to do some things differently than they have been doing. And we have need for it. We also, through this, can support a change from the legislative and executive branches to fund teacher education on the basis of quantity - how many FTE's you have. How many of this you have and that you have is how you get your funds in order to keep in operation. We cannot talk about quality on the one hand and all the input be based on quantity. Hopefully, we can convince the leaders in the political areas that we have to be supportive of the colleges and universities receiving funds based on the service they provide not only to those becoming teachers, but also to those who are teachers.

We subscribe to the work that Madeline Hunter, Bloom and others have been doing; you can train teachers to become better teachers. Of the probably six or seven things in the total teaching act, content, planning, classroom management, human relations, use of resources and instructional skills, instructional skills is the only one that is really unique to teachers. Everybody else needs all the others. Technology, which we have been talking about in this conference and is extremely important, is only one of our needs. It can assist in several of those components of the total teaching act, but it is primarily related to use of resources.

We must not forget that instructional skills improvement and the improvement in the quality of the teacher must be based on the teacher's response to the learner. We have attempted to start a model of this in our state with trainers from colleges and universities and the public schools. We have them go through an eight-day cycle, not after school or on Saturday, but during the day when the teacher is there for the theory and the input in all of these areas. The eight days are scattered over a 25-day period. Between the input days we involve the instructor in observation of the teacher who has an opportunity to practice one component, come back in for additional input, and then go back out and practice that component, see it demonstrated, see a model of it. It is important to have an instructional leader who can communicate with the teacher about the component and understands it.

We have 370 districts in our state, many are small districts. They do not have staff or resource capability to do it by themselves. Even in a state that has the deficiencies and needs our state has, teachers are crying for some practical help. We have had 165 of those districts in one year participate to some level in this kind of in-service. We have had 11 colleges and universities become involved to help us. Many of them are seeing that some of these concepts are incorporated in their preservice courses. We have over 100 people trained to train others. Our problem is not getting it going, our problem is keeping up with it. The secondary benefit of all this is that almost all of the teachers who have been through this procedure and have been involved with clinical supervision and had an opportunity to interact with other professionals end up feeling better about their own profession and their own skills.

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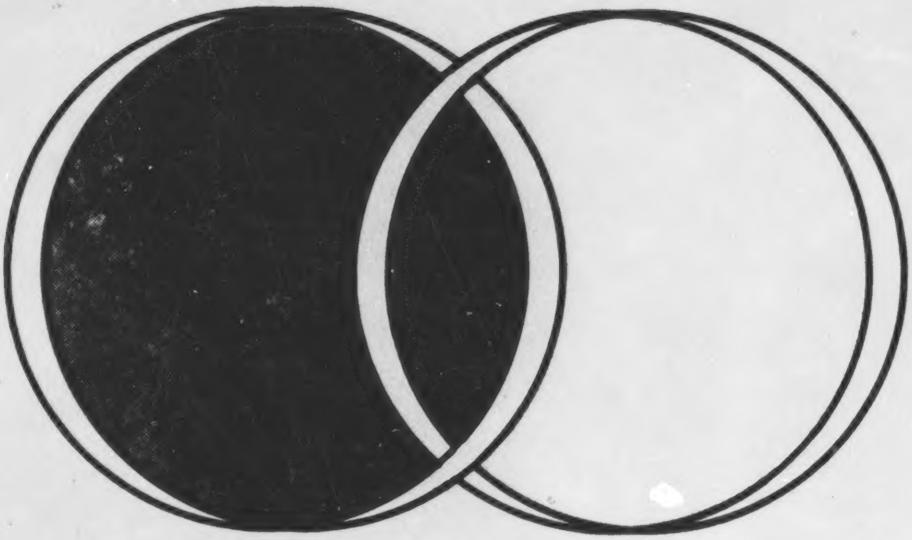

education in the southeast: future with a past

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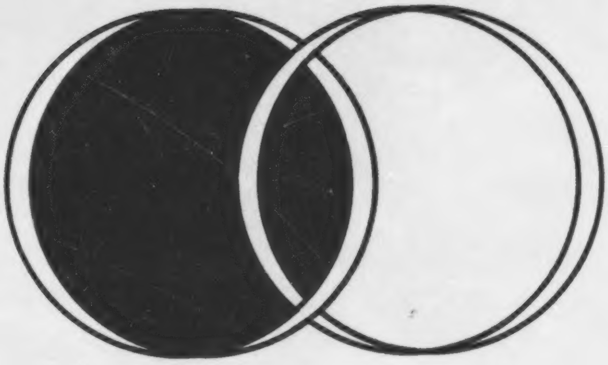


history, literature and the culture of the south

the ambivalent south: the south in historical perspective

WILLARD B. GATEWOOD, JR.

News of the firing on Fort Sumter in 1861 was the signal for Southern students at Princeton to make preparations for returning home. Before they departed, however, they requested and received permission to salute the American flag "for the last time." The flag was raised; the group, accompanied on the violin by John Dawson, a student from Canton, Mississippi, sang "the Star Spangled Banner." They, then, left the campus in a body. Once home in the South, these students in all probability sang another song, entitled "Dixie" composed by Dan Emmett, a blackface minstrel from Ohio. To compound the irony the original song told of a runaway slave's desire to return to his plantation home in the South, but with new verses added it became a Confederate marching song, in fact, the "musical symbol of a new nationality."

The actions of the students at Princeton in 1861 vividly point up the paradox, ambiguity, and ambivalence that have characterized much of the historical experience of the South. As a result, the interpretations of that experience have been diverse and contradictory, so much so, in fact that one is tempted to agree that the South has been anything anybody wanted it to be. The variety of the pronouncements regarding the nature and meaning of the region prompted David Potter to liken the South to a "kind of Sphinx in the American land" whose inscrutable expression has been interpreted to mean everything from "the secret to the riddle of American life" to a mere facade for a sick society. As virtually all serious students recognize, the history of the region has been a double history. Southerners have rarely been able to escape a sense of two-ness, somewhat similar to that ascribed to Black Americans by W. E. B. Dubois. As American and as black, according to DuBois, the Afro-American possesses "two warring ideals in one dark body." The Southerners' sense of dual identity, as American and as Southern, has been evident in their divided loyalties, internal conflicts, and acute self consciousness, so that their region has been, for some, the "Alien child in a liberal family, tortured and confused, driven to a fantasy life." To be sure, the South has "lusted for prosperity, bulldozers and progress," but it has, all the while, cherished "the values of stability, religious orthodoxy and rural life." Because Southerners have lived in a state of ambivalence, their region is often described in dichotomous terminology, such as old and new, agrarian and industrial, rural and urban, black and white, change and continuity, enduring and vanishing.

Geographically the South is an imprecise entity, a land that stretches more or less from the Potomac to the Rio Grande. Most of its inhabitants have little quarrel with the traditional label, "Sunny South", which has assumed a new significance and new Sunbelt imaginary in the present energy-conscious era, but not all, especially those of us from northwest Arkansas, are entirely comfortable with the description of the region as the "land where it never snows." The South has always been near the center of the historical drama of America, and Southerners have shared with other Americans a common language, a common system of values which exalts progress, material success and self reliance, and a common commitment to republican institutions. Most of the same historical forces and movements which have shaped society elsewhere in the United States have been present in the South.

Howard Odum, among many others, has argued that the South "began in the most American part of the nation." Indeed, it was a slaveholding Southerner, Thomas Jefferson, who in 1776 defined America in the Declaration of Independence. His document "voiced aspirations that were rooted in his native region before the nation was born." When Pierce Butler, a South Carolina delegate to the Constitutional Convention, declared that the interests of the North and South were as different of those of Russia and Turkey, Governor Morris replied that such a distinction was either fictitious or real, and if real, the delegates should take friendly leave of each other. But Southerners at the Convention, agreeing with Morris that sectional differences were insufficient to preclude national unity, proceeded confidently with the business of Constitution making. The names of two Southerners in particular, James Madison and George Washington, are appropriately linked to the drafting and ratification of that document. Of the seven Southerners who served as president of the United States before the Civil War, Thomas Jefferson and Andrew Jackson, were identified with two of the nation's most significant movements for greater democracy. Furthermore, to the very eve of the rupture in the Union in 1861 Southerners continued to eulogize the principles of liberty and freedom in annual celebrations of Independence Day, a practice that they resumed almost before the smoke of war had cleared and the South had ambivalently reentered a transformed Union. So satisfied were the founding fathers of the Confederacy with the United States Constitution that they incorporated most of its provisions in their own organic law. Yet, the Southerners' experience with separate nationhood so reinforced their sense of dual identity that theirs is the only part of the country where a symbol of defiance against national authority, the Confederate flag, can be waved enthusiastically by one who considers himself a super-patriot of the 100 percent American variety.

It may well be that every country has a South, that is a relatively poor, politically conservative and religiously orthodox area. "In many countries and in the world as a whole," as economists have noted, "the North tends to be richer than the South." Even though a North-South differential may be a worldwide phenomenon, it is difficult to imagine that any other south surpasses the American South either as a subject of serious inquiry or in the ability to evoke emotion. Whether defined in terms of that which was retrograde in national life, or more recently as the source of national renewal, the South has been viewed, to an extraordinary degree, from the perspective of its distinctiveness, as American but with a difference. The result is that rarely does one encounter references to the "mystique of the North," the "mind of the West," or the "central theme of Midwestern history," but such references as applied to the South abound, indicating a region that is somehow different. The nature of this difference is often complex and elusive. Determining when differences of degree become differences of kind can be risky. For example, if Southerners, as Jonathan Daniels once remarked, are a mythological people, they obviously have never possessed a monopoly on myth-making which is a well-established American enterprise. What separates the South from the rest of the nation in this respect, perhaps as much as the kind of myths which have surrounded it, has been the sheer quantity of myths which Southerners and non-Southerners have created about the region. Nor has the South held exclusive rights to racism, violence or evangelical religion; yet its experience with and manifestation of each sets the region apart. On the matter of religion, for instance, the South has been and remains overwhelmingly Protestant, numerically dominated by Baptists, who as Samuel Hill observed, have virtually everywhere else in their history occupied the status of a minority, often despised, out-group. The striking sameness displayed by Southern Protestants prompts some to refer to a "transdenominational Southern church." Such a concept, while useful, scarcely does justice to the numerous sects and cults which have originated and flourished in the South and which view as apostates and heretics the same Southern Baptists considered rigidly orthodox by their Baptist brethren in the Northern Convention.

Few would disagree with Daniel Boorstin's contention that the concept of a uniform, monolithic South represents a triumph of imagination over reality, resulting in the "most disastrous oversimplification in American history" responsible for a succession of stereotypes and half truths. Without resorting to the concept of a monolithic, homogeneous region, those engaged in the study of the Southern past make allowance for diversity, even though it is often diversity embraced within an "overall unity." A recent work by Michael O'Brien suggests that this overall unity is found in the idea of the South itself rather than in social realities. Rejecting the traditional interpretation of the region as "an integrated social reality about which there have been disparate ideas," O'Brien insists that the South itself is an idea which has been utilized to organize and comprehend widely diverse facts of social reality. For him Southern identity is basically a problem in intellectual history.

Representing a substantially different approach, historian Carl Degler wrote two books within the last half dozen years to demonstrate that while the South has by no means been monolithic it has been and remains distinctive. One of his works, Place Over Time, argues that both in the realm of social fact and in the realm of psychological identity, the South, in spite of 20th century changes, continues to maintain its separate identity; the other work, concerned with Southern dissenters, concludes that even those Southerners who deviated from regional norms, such as unionists, anti-slavery advocates, Republicans and Populists, differed in approach and in the form and emphasis of their arguments from their counterparts elsewhere in the nation. Corroborating the latter contention was the description of Southern liberals by the Swedish social scientist, Gunnar Myrdal. "Southern liberalism," he concluded, "is not liberalism as it is found elsewhere in America or in the world." According to economic historians, even industrialization in the region - which is often cited as evidence of a vanishing South - possesses a different character, because industry in the region has been and remains essentially a small-town affair and, with one or two exceptions, has produced no industrial cities. What Degler, Myrdal and many others imply, then, is that while there are "many Souths", there is also "The South."

Just when the region became conscious of its separateness is open to debate, but some evidence of such consciousness was present at least as early as the founding of the nation. In 1786 Thomas Jefferson provided an oft-quoted description of the basic differences in the character of Southerners and Northerners. Southerners, he said, were fiery, voluptuary, indolent, unsteady, zealous for their own liberties but trample on those of others, generous, candid and without attachment or pretensions to any religion but that of the heart; Northerners were cool, sober, laborious, perservering, jealous of their own liberties and just to those of others, interested, chicaning, superstitious and hypocritical in religion. Both were fiercely independent. Variations on Jefferson's delineation have persisted for almost two centuries. Those who have attempted to explain the characteristics ascribed to Southerners have emphasized, at one time or another, the central importance of climate, ruralism, agricultural patterns, especially the plantation system, the region's involvement with race and its unique commitment to slavery, folk culture and the long existence of frontier conditions.

As the rift between North and South deepened early in the 19th century, Southerners themselves, in assessing their region, shifted from an emphasis on its contributions to national traditions to an emphasis on "the South's differences from and superiority to the North." For many, Southern character was rooted, as William Lowndes Yancey said in 1855, in "the peculiar climate, soil and productions" of the region, generalities that embraced the plantation system and slavery. By the outbreak of the Civil War something approaching a Southern Ethic had been developed as an alternative to the Puritan Ethic of the North. Embodying a different attitude toward work and leisure, it presumably explained the South's penchant for sociability, consumption and enjoyment, in contrast to the North's selfish acquisitiveness, predatory greed and rational asceticism.

Early in the history of the republic the South slipped into a minority status. At the same time the system of slavery which the region increasingly viewed as central to its society became the target of censure, not only in the North but throughout the Western world as well. Unable to maintain joint control of the national government, despite the elaborate theories articulated by John C. Calhoun, the South became convinced that it was "encircled and menaced on all sides." Although certain New England states once talked of secession, the South has been the only section to feel sufficiently menaced to withdraw from the union and proclaim separate nationhood. If the act of creating an independent nation provided Southerners with a different experience and a specific base upon which to rest claims of their dual identity, the fate of the Southern nation was devastating to regional self-esteem, all the more so because it "caught a society at the height of its collective posturing, exposed its pretensions and forced its acknowledgement of them." Not only the Civil War and Reconstruction, but also a succession of other outside threats, real and imagined, from at least 1830 on, prompted within the South a kind of seige mentality. So persistently have Southerners perceived of themselves as victims of malevolent forces that some historians argue that a sense of grievance may be at the heart of Southern identity. Southerners are never more conscious of being Southern, Sheldon Hackney contends, as when they are defending their region against outside forces. Abolitionists, carpetbaggers, Yankee professors, labor unions, civil rights activists and the federal government have at various times been viewed as alien serpents intruding upon the Southern Eden. The Southerners' sense of grievance has produced both extreme sensitivity to criticism and a readiness to defend or rationalize regional defects. By no means untypical was the response of the Memphis Commercial Appeal in 1890 to what the editor perceived as another Northern insult to the Southern people. "There is," he boldly concluded, "more happiness and prosperity to the square inch in the South than to the square league in the North."

The Southerners' feeling of being "encircled and menaced on all sides" has often been related to the black presence in the region - a presence which, to an extraordinary degree, has figured in the great concerns of the South. Receiving few of the vast numbers of European immigrants who poured into the United States in the 19th and 20th centuries, the South remained what it had been since the 17th century - a land primarily inhabited by those of British and African ancestry. Nowhere else in the nation was there more intimate mingling of black and white whose love-hate relationship shaped much of the outward culture of the region "from vocabulary to accent in speech, through foods and cooking, to politics and economy." From his intimacy with blacks, Frederick Law Olmstead wrote in 1854, the white Southerner acquired much of his "benevolence, good nature and geniality." Writing more than a century later, historian Lawrence Levine emphasized that "cultural diffusion between white and blacks was by no means a one way street with blacks as the invariable beneficiaries." Whatever whites taught blacks, Joel Williamson notes, blacks lost and added something, which they feed back to whites. The result was that white culture became progressively blacker and black culture progressively whiter - an experience duplicated in no other part of the United States.

For those historians who contend that the distinctiveness of the South lay in its folk culture, folklorists add a substantial body of corroborative evidence. In their view the extraordinary richness of Southern folk culture is a result of the blending of Anglo-American and Afro-American traditions. "In the South and only in the South," a well-known folklore scholar has written, "was a genuinely bi-racial folk culture created. The Afro-American in the North has been an immigrant into a pre-existing civilization; in the South he was (like those from Britain) a settler." In its cultural integration of African and British traditions, therefore, "is found the best claim to Southern distinctiveness." Two historians at the University of Alabama who are currently engaged in a comprehensive analysis of the census with a view toward ascertaining the source of Southern identity focus on another set of ethnic and cultural ingredients. They contend that the source of regional distinctiveness lay in its Celtic origins. "The English way became the way of the Yankee," they conclude, "the Scottish and Irish was the way of the South."

While no serious student is likely to deny the significance of racial and ethnic factors in the South's past, some have placed it within a larger context, none more perceptively than C. Vann Woodward. In Woodward's view, it has been the collective historical experience of the Southern people which has made the South a distinctive region in the country. This experience, he contends, has diverged sharply from the most revered aspects of the American self-image: in a land of plenty and wealth the South possesses a long record of poverty; in a nation accustomed to invincibility and unending success, the region has experienced defeat and military occupation; in a morally complacent nation enamored of its virtue and innocence, the South lived intimately with a great social evil. The collective experience of the South, then, constitutes a burdensome history whose vengeful presence serves to remind residents of their two-ness, their dual identity. Ironically, the historical experience of the South which distinguishes it from the rest of the nation is precisely what makes it more like the rest of the world which has known defeat and poverty. From a larger view, then, if any historical experience has been exceptional, it has been that of the rest of the country rather than that of the South.

Changes in the South and in the nation since 1954, have reshaped the context for historical assessments of the region. Not the least of these changes have involved alterations in the nation's perception of itself which in turn have influenced its perceptions of the South. While the region may still be viewed as a counterpoint to the national experience, its eccentricity is no longer dismissed as irrelevant, but rather as one writer has suggested, "the fragile promise on the nation's last frontier." The idea that the South may have a past worthy of being scrutinized by a nation confronting problems once viewed as peculiarly Southern has achieved a degree of acceptance. It may be, as some suggest, that the region's distinctive historical experience has insight for a nation rather suddenly made aware that problems of race and poverty were not confined to its "other province" and which has been forced to rethink its belief in invincibility in the light of Vietnam and its aftermath. No less instructive, in view of the growing concern over the loss of a sense of community, may be the folkways of a region in which the word "neighbor" is used both as a noun and a verb, and where given a little time any two natives are likely to establish some kind of kinship. And notwithstanding statistics regarding violence and homocide, the South remains the land where visitors are most likely to detect what Sir Denis Brogan called a "genuine tradition of civility."

Not surprisingly, perhaps, in the wake of Vietnam and Watergate, when Southern exceptionalism seemed to assume greater relevance, there have begun to appear historical treatises which reinterpret the regional past in a way that makes it conform to new perceptions of the South as "the last hope of the nation." One such work, published in 1977, and described by its author as "revisionist history," announced the arrival of a post-racial South, made preemptive claims in behalf of Southern political genuis, extolled the "beneficial effects of Southern ideology" and "the power of its libertarian ideals," and transformed a succession of segregationist politicians into heroic guardians of the nation's liberty and virtue. The result is a seriously flawed historical view of the South - something similar to an updated version of the old moonlight-and-magnolia history and no less distorted than works of that genre or those which have described the region exclusively in terms of evil and degeneracy.

The fact is that almost from the beginning the South has spoken in more than one voice. At one extreme it has articulated the nation's highest aspirations of liberty and freedom. At the other it has been carping and obstructionist, expressing narrowly sectional concerns defending institutions which stood in direct contradiction to those aspirations. Particular circumstances of the moment and especially the variety and source of the pressure exerted upon the region from without have often determined which of these voices became ascendant. To be sure, recent changes experienced by the region have been profound, but as George Tindall has observed, the South has repeatedly displayed "a striking knack for accepting change without losing its sense of separate identity." It has embraced successive versions of "a New South" ever since the late 19th century, and the rhetoric accompanying each version, including the present one, has usually contained references to the imminent demise of a distinctive Dixie. While contemporary statistics in regard to school desegregation, Sunbelt economics and various other quantifiable areas may well support the view of a vanishing

South, the "things of the mind" - myths, patterns of thought and self-consciousness - may, on the contrary, indicate an "everlasting South," or as the title of John Shelton Reed's superb study puts it, an Enduring South: Subcultural Persistence in Mass Society. As late as last month the columnist Carl Rowan wrote that being Southern involved "more than geography." "It is," he argued, "a mindset, a way of life . . . and social customs that consign people to a certain place in society." It just may be, however, that the South emerging from the 1970's is truly new, that "the nation's long, ugly-but-interesting play in the national imagination" is near an end. One native Southerner, who accepts this view, nonetheless expresses the hope that Southernisms such as mannerliness, accents and cuisines will at least survive this century. But he observes with a note of regret, "we probably can't have our grits and eat them, too."

The response of contemporary Southerners to the homogenizing and nationalizing trends which confront them, while generally positive, is nonetheless tempered by what one recent survey calls "certain concerns." In other words, their ambivalence is sufficient to establish kinship between Southerners of today and the students who departed from Princeton in 1861. Their "certain concerns" may be rooted, as Flannery O'Connor once suggested, in a fear that disappearance into something called the mainstream will force the South not out of its many sins, but out of its few virtues. Whether Southerners will shed their separate identity, or indeed whether they will be allowed to by non-Southerners who have found the region's eccentricity useful for so long, remains to be seen. For over a century at least, farewells to Dixie have appeared with regularity. If the South does not disappear soon, a superabundance of premature obituaries may join the existing superabundance of myths as marks of regional identity.

trends in southern politics and government

JAMES CLOTFELTER

If you will join me, we will leap from John C. Calhoun and Thomas Jefferson to the last 20 years, the period that I will address. A number of my colleagues were struck during the recent campaign with the similarities between the 1960 campaign and the 1980 campaign, except that the parties had changed roles in some respects. Let me use 1960 as a benchmark, at least for the purposes of what I have to say here.

The South and Southern politics are radically different now than they were in 1960 and even more different than the politics described in the classic study of Southern politics by V. O. Key in 1949. It seems so very long ago that race was the centerpiece of Southern politics, the beginning and end of almost all disputes. But, I want to remind us that it was really not too long ago. Not much more than twenty years ago, an eccentric but powerful governor of a southern state was incarcerated in a mental institution in part because of his determined support for black suffrage. They figured he *must* be crazy. Twenty years ago the largest city in the South seriously discussed the possibility of closing its public schools rather than integrate them. Less than twenty years ago, the Morehead planetarium at the citadel of Southern Liberalism, UNC-Chapel Hill, a training site for U.S. astronauts, had three restrooms: men, women, and colored.

The changes have been so great that I cannot do justice to them in this brief talk. I will discuss Southern politics under three general headings: 1) Changes in who participates in politics; 2) Changes in which issues are debated and how they are debated; and 3) Changes in the relationships *between* levels of government and *within* levels of government. I am going to go back over the same terrain with the three perspectives in mind. In each, I will suggest a few implications for the making of education policy in the future and, probably, will speculate beyond what the data can actually tell us. I won't discuss last Tuesday's election but, obviously, I will be happy to respond to questions it may have raised.

First, we will discuss changes in who participates in politics. In participation, one central fact of southern history remains. Southerners as a whole participate less and vote less than Americans as a whole. Beyond that, I want to look at three particular groups whose participation in politics in the past has been highly suspect. It was highly suspect as late as 1960. They are blacks, women and Republicans, all of whom have become more involved in the years since 1960.

The most obvious and widely discussed changes have resulted from the participation of blacks. Most school districts have moved, in these 20 years, from segregation to token integration to full integration and in some cases, to resegregations (by the exodus of whites, who fled from either the city or the schools). School boards now contain more black faces and the voters who choose school board members or choose the elected officials who appoint school board members now have a significant black voting minority. In the nine southeastern states in 1970, 417 blacks held elected offices of all kinds. By 1979, this figure had increased to 2,768. Issues of race still arise in discussions of education, but in far more subtle ways than occurred 20, or even 10, years ago.

The increasing involvement of women in elective and appointed jobs in politics is important because women traditionally and apparently still are more concerned about education than men. In 1979, 1,541 women held elected offices in nine southeastern states, still a fairly modest number. Although Mr. Reagan apparently received a plurality of women's votes, the vote he received from women was significantly smaller than his share of men's votes. This is a substantial change from previous practice. Traditionally, if you knew how men voted, you knew how women voted. There was very little difference. The 1980 Presidential election seemed, until the final days, to be setting a new pattern in which one could discuss women as a political group with distinctive characteristics. The difference narrowed substantially in the last few days but it still may be that this is the beginning of a period in which women are a distinctive voting group.

In party terms, the South was almost solidly Democratic from 1865-1948, with the exception of the 1928 Al Smith race, and with the exception of the mountains. For some time now, Republicans have been anticipating a bright new day in Southern politics. However, the moment of parity with the Democrats has seemed to grow closer, then recede into the future. We now hear the strongest statements yet of optimism from the GOP. Yet, it takes a long time to attract and nurture office seekers at all levels. It has been more troublesome than expected to detach Southerners from the party of their ancestors at the state and local level. It has been difficult not only to detach them but to keep them from returning to the Democratic party after voting for the Republicans once or twice. The little lady, who pointed to her head and said that every hair on her head stood for a year in which she had voted for the Democratic party, is gone. But party identification data still show far more Democrats than Republicans, by 3-1 margins in some states. That may change, but it hasn't yet.

The implications for education of the shift toward a two-party system are not clear. The Republicans have been, at least since 1964, strongly identified as a conservative party while the Deomocrats continue as an umbrella for many factions. You cannot call the Democratic party in the South liberal or conservative. Except in regard to race, this GOP conservatism has not led to radically different postures on education. It may do so but it hasn't yet.

.In changes in participation, the meaning for education policy in the first two of these three groups, blacks and women, seems clearer than for the third factor.

The second major area inclues which issues are being debated and how are they being debated? The perennial issues of Southern politics are race, schools, highways, welfare and social services, economic development, and taxes. In Texas and Louisiana, add oil. In every state, you might add the hidden issues, the ones that no one talks about, poverty, low wages, and unionism. These do not usually become political issues because of widespread agreement among elites that they should not be issues. However, they are potentially important.

Issues of race emerge in more subtle forms than before. In education, competency testing is an example. School line redistricting (with concern for racial balance) is another. As more school districts tip to majority black, we could enter our "northern" phase with busing again becoming a controversial practice, even in systems in which white and black criticism had been muted for some time. We may have solved a problem that will need to be solved all over again in the future.

Education is an important issue in other respects. Education remains one of the central issues in state politics, probably more so here than in the rest of the nation. This is in part because public schools in the South were not as well supported as in the rest of the country until recently, and a number of governors in the South have sought to portray themselves as "education governors." Also, many state governments in the South provide a larger than average share of the cost of public education.

Traditionally, school support has been a quantitative issue. If you were pro-schools, you spent more, raised teachers' salaries, added kindergartens--and historically, you added 10th, 11th, and 12th grades, if you go back that far. You added more. Important quantitative issues remain. Teachers' salaries will always be an issue. Support for handicapped education and remedial education are quantitative issues.

A number of political issues in recent years, however, have been qualitative ones. These might prove more troublesome for some traditionally pro-school groups. What roles should schools play in moral, ethical, religious issues? School prayer? Sex education? Evolution theory vs creation theory? Obscenity in literature? There are also increasing demands for accountability seen in competency testing programs and in the calls by some candidates for limits on teacher tenure. What role should the state play in the control of or indirect support of or relationship to private education? All of these are qualitative issues.

An issue associated with all other issues is taxes. Every governor knows the easiest way to be defeated is to raise taxes visibly. The movement giving governors the right to succeed themselves in office may have as one result the postponement of tax increases until the governor's second term. Southern states have lower tax rates than most other states, perhaps making Proposition 13 a little remote here, although we have had some waves from that movement. Income taxes, in particular, are modest by national standards. The highest marginal rate, I believe, is seven percent, and at least two states have no personal income tax at all.

Issues of economic development and jobs are old ones in the South. The New South that Henry Grady promised in the late 19th century was predicated on locating new industry. In the past 20 years, southern states have seen a large increase in non-farm employment caused in part by the so-called "move to the Sunbelt." The importance for education policy of the level and kind of employment is enormous; they will help determine how much tax money is available, what value is placed on education, and what kinds of education or training may be necessary to fill the jobs. It should be noted that we have not yet left our past in this regard; most new jobs created in the South are still controlled by corporations outside the South. Thus, the South remains, in some respects, a colony, albeit a more prosperous colony. It is not yet fully the master of its own economic fate.

Finally, let me mention what Scammon and Wattenberg ten years ago called the "social issue" - the collection of concerns and anxieties that many have about the family, about moral standards, about matters that are defined in terms of right and wrong. This is a national phenomena, but Southerners are more likely to identify these kinds of concerns as important ones. The emergence of Virginia's Rev. Jerry Falwell on the cover of news magazines this year is one sign of the importance of this collection of concerns. Given the extent to which our society has come to rely on public education, rather than church and family, to teach values, the rise of the "social issue" may have important implications for future support for public education. The most prominent examples of issues here are abortion, ERA, and school prayer; in the past five years state legislators in the South almost certainly have devoted more time to the abortion and ERA ratification issues than to any other two issues, no matter how complicated. Whether we will be able to arrive at some consensus on these social issues that will permit us to move on to other concerns is not clear at the moment.

To summarize on taxes, nothing has changed. Voters want better services and lower taxes. Never mind that it is impossible, that is simply the world in which we have to operate. In terms of education, we may see stronger support for the view that says "you have enough money for education, make better use of it." Finally, educators have to be particularly careful to avoid being "bushwhacked" in disputes over morality and over the family.

Finally, let me discuss changes in relations between governments and within levels of governments of importance to Southern politics--dealing first with the relationship between state and local governments. In 1977, an average of 32 percent of the states' general expenditures in the South went to local governments. State support for local government rose from $471 million in 1950 to over $10 billion in 1978 in nine southeastern states. And, as noted before, southern state governments have tended to play a somewhat larger role in support of education than have state governments in other regions.

With this in mind, you might take a look at the mandates placed upon local governments by the state and federal levels. In 1978-79 I took part in a study of mandates and was struck by the strength of feeling of local government officials, in virtually every substantive area, that they were being mandated to death, not only by the federal government but by the state also. One of the manifestations of this concern has been the requirement for fiscal impact notes, required now on more legislation as one way to protect, or at least to alert, local government.

Second, look at the relationship between the federal and state governments. Few aspects of Southern politics have changed as radically in the past twenty years as has this relationship. Cussin' the federal government is still a great indoor and outdoor sport in the South, but insofar as the governors and legislative leaders of most southern states are concerned, it lacks the conviction of days goneby.

One of the most important governmental trends of the past 20 years has been the proliferation in federal grants programs for state and local governments, ranging from relatively open-ended revenue sharing and block grant programs to more restrictive, strings-attached categorical grant programs. Federal aid to state and local governments in nine southeastern states in 1978 was almost $12 billion.

The South, despite the harsh words it directed at Washington, has long been the beneficiary of a net inflow of federal funds. This situation is less extreme now than it has been in the past. In 1974-76 the Southeast and Southwest enjoyed more in federal expenditures in their states than was collected from their states in federal taxes, but the same was true for the Rocky Mountains and for the West, and the gaps between spending and taxes in the South were more modest than had been true in the 1950s and 1960s. Still, no southern state in 1974-76 received less than 96% of revenues collected, while Mississippi's ratio (the highest) was 1.65. This situation contributed to the development in the 1970s of a so-called "Frost Belt" coalition in Congress made up of legislators from the Northeast and the Midwest intent upon rewriting federal grant legislation to insure that their regions received a larger share.

Major change should be noted in the influence of Southerners in Washington. Although the White House has been occupied recently by a Georgian and his followers, the influence of Southerners in the House and the Senate has declined dramatically in the past twenty years.

Finally, within state governments in the South, there have been a few changes in the relationship between the executive and the legislature. State and local government employment in the Southeast increased by 57% between 1960-1978. Here is the explosion in public employment, not at the federal level. This presents governors and legislators with large and complex bureaucracies to manage and control. Public service in southern states is far more professional than it was 20 years ago; more of these state employees have specialized education and training, and the same is true at the local level. This may create control problems by introducing professional norms as rivals to what elected officials want done.

Many of the proposals of twenty years ago to make legislatures more professional (more staff, higher pay, annual sessions) are still made today, because only modest change has occurred in the intervening period in most states. The governors have seen their power increased somewhat during this period, with succession now permitted in several states where it was not permitted earlier, yet the governor in several southern states still lacks formal powers usually found outside the South. Southern state governments were intended when recreated around the 1870s to be weak, and it has been a long, slow process to strengthen them. This process has gone on for years alongside increasing support for public education and other state and local services; whether the trend will continue, or whether the pendulum will swing back, is uncertain.

carabosse at the party: history, literature, culture of the south

JACK B. MOORE

Most of you are familiar with the story of "Sleeping Beauty," either as it is told in one of the two literary versions, by the Frenchman Perrault or the Brothers Grimm, or in the ballet version which is in fact an adaptation of Perrault's telling of the story. The start of the fairy tale concerns some kind of christening ceremony where gifts are brought to honor the new, favored Princess of the Kingdom. As wonderful, supernatural agencies lay gift after gift at the crib of the many-times blessed infant all seems miraculously splendid, divinely beautiful, marvelously fortunate in the kingdom. The little girl's name is Aurora which relates her symbolically to the dawn and rebirth, and one can easily see her as the representative of the dawn of a new and lovely age. But this is only the beginning of the fairy tale, and one of the messages this myth delivers is that the new age of Aurora will be a long time coming. Into the enchanted atmosphere of the festive ceremony suddenly stalks, or limps, or crawls, or lurches or flies on a broomstick a forgotten guest, the ugly old Carabosse, who was supposed to have been asked to the party but who presumably through bureaucratic oversight remained uninvited. So you will not have to ponder why at the Southeastern Regional Council for Educational Improvement's second conference on the Future of Education in the Southeast I am standing up here relating to you fairy tales from your dim past, let me tell you that through allegory I am introducing you to myself, for I am the representative of Carabosse here.

Amid the harmonies of the other presenters who have spoken to you of brave new worlds of education, and have brought electronic gifts computerizing warehouses of data calculated to bring about the educational squaring of the human circle, I represent disharmony, dissent, disorder, dispute, and a disheartening warning. As Carabosse said to Aurora I am inclined to say-- and I hope you realize this is nothing personal, my message does not come from me to you, but from the writers of the South to the formulators of this Conference-- I am inclined to say watch out, you're going to get stuck. Furthermore a machine (in "Sleeping Beauty" it's a spinning machine) or a machine-like system may do the pricking.

To finish, temporarily at least, my use of the fairy tale in this educational allegory, I wish only to explain further that unlike Carabosse I was invited here, but still I represent what she represented-- the person we don't want to hear, who tells us things we don't want to learn. In his superb book on the truths that exist at the heart of our richest and most popular fairy tales, called The Uses of Enchantment, Bruno Bettelheim refers to Carabosse as "the element of threat" to the "physical existence" or "moral existence" of the fairy tale's hero. This "element of threat" he says is crucial to the working out of the hero's story, one reason I have voluntarily adopted my role, for along with conference claims that the future is not predetermined, that we can create it through the revolutionary force of technology applied to education, perhaps at least one imprecation is a necessary ingredient for conference success.

This is a conference about new horizons and young ideas about bringing gifts to all the young Auroras of the New South. The Carabosses of the fairy tale world are usually presented as anti-Auroras as part of the past. So let me take you briefly into the past, to another conference about another New South and show you why we need to listen to the witch's threat. A book titled The Call of the New South published in 1912 printed the speeches given that year at a congress held in Nashville which brought together much the same kind of people who are collected here, to discuss a problem not identical to ours but certainly related. Participants tended to be leaders in their fields or more successful than most in their display of talent, good workers, no-nonsense professionals generally in advance of their constituency in their desire for social progress and in their willingness to consider alternatives for change. The stated purpose of this congress was to bring together "representative people from the entire South interested in Social Welfare, for the purpose of studying and improving the social, civic, and economic conditions of the South." One of the most revealing themes of the Congress was stated in a mailout to participants some six weeks before the congress itself, much like The Force newspaper many of you received prior to coming here to Orlando. In an essay called "The Challenge" the high aim of the New South was set forth. "Southern Chivalry is not dead," prospective participants were told. "It is only working in new conditions for new forces. It is a pervading passion for righteousness, a vicarious love of humanity, an unselfish enthusiasm to spend itself in helping to develop the nation on the solid foundation of social justice, health and purity. . . . 'The Solid South for a Better Nation,' will be our slogan." Certainly here was a body of citizens passionately interested in helping to plan a better way of life for their neighbors, and for their neighbor's children. Here was a group of the best and the brightest, whose goals were the shiniest and highest.

It was also a group of citizens who had a very clear notion of who they were. Professor G. W. Dyer, Professor of Sociology at Vanderbilt, easily identified the Southerner and his high potential for right action when he optimistically declared that "we have a great population, a population that is capable of the greatest things for civilization. The typical Southerner is an Anglo-Saxon. In the South today we have the purest Anglo-Saxon blood anywhere found in the world today, and we know that the Anglo-Saxon has a genius for government and has never failed to grapple successfully with any serious problems of civilization. . . . The typical Southerner loves his home. . . . The mansion and the big plantation have been stressed out of all proportion to their real merit as furnishing the strong men of the South. . . . If you would see the home that gave Andrew Jackson to the South, to his country, to the world, you must turn away from the Hermitage to the simple log cabin. . . . of three rooms or four. . . . the walls were whitewashed, the floors were scoured and kept scrupulously clean. . . . the lawn was covered with grass and the rose and the lilac and the violets grew there. Just below the house in a grove of green trees was a cool, sparkling spring, where typhoid and diptheria germs were afraid to go. . . . I think sometimes that it must have been a home like this that John Howard Payne had in mind when he wrote "Home, Sweet Home." Other than positing a remarkable theory of sanitation-- there is a suggestion that deadly bacteria will be zapped by the pastoral harmonies of a germicidal "Be It Ever So Humble"-- the passage is noteworthy for eliminating what would have been in some Southern states the non-Anglo-Saxon majority from inclusion in the pantheon of successful grapplers with the serious problems of civilization.

Had Professor Dyer read any Mark Twain, he might have learned about the murderousness of some of the Anglo-Saxons who lived in those apparently antiseptic pre-suburban lilac-lawned cottages. Had he read George Washington Harris's "Sut Lovingood" stories, he would have discovered the vitality and comic pragmatism of those whose farms were not quite so clean, and could he have seen into the future and read about the Anglo-Saxons in Erskine Caldwell's fiction of poor whites and blacks, he might have learned what a complicated mixture of nobility and depravity those people James Dickey ridiculed in his novel Deliverance really are, making it impossible I would think for anyone who wants to say something meaningful about the people of the South and their future to do so in glib and easy generalizations.

In another section of The Call of the New South another respondent declared that 'my observation has been that courts try the negro [sic] fairly. . . . Yet honesty demands that I say that justice too often miscarries in the attempt to enforce criminal law against the native white man. . . . In conclusion, may I say in all kindness, I have tried to point out some of the weaknesses of both races, that each may remedy them. Will not the white race answer 'the challenge to prove the superior civilization by a great degree of kindness and justice to the inferior races?'" Another talk proclaimed that "the average negro [sic] is content with squalid surroundings. He does just enough work to keep him from actual hunger. He yields to every sensual impulse and passing emotion." These words were not spoken by the Grand Kleagle of the Ku Klux Klan but by a surgeon in the United States Public Health and Marine Hospital Service, Norfolk, Virginia.

I have quoted excerpts from the 1912 Congress not in order to ridicule it for that would be like as I believe the producer Sam Goldwyn once said, shooting sitting ducks in a barrel. Nor am I projecting upon that half-century old well-intentioned attempt to bring the social millenium closer in the South, disguised scorn for our present endeavor, for certainly none of us here in Orlando are as fatuous and smug in our beliefs as were those collected in Nashville 68 years ago.

But I have brought this earlier congress to your attention to indicate a certain skepticism I feel many Southern writers would feel toward what we are trying to accomplish these couple of days in Orlando, and how we are going about it. Events such as the 1912 Congress are a part of our past in the South. They suggest to me what is not a uniquely Southern vice but one amply delineated throughout Southern literature, what the Greeks called hubris, or overweening pride. I should say at the outset that there is some consolation to possessing this vice, in that in classic Aristotelian terms, only the truly high, tragic figures had it, the over-reachers. Jeeter Lester could not have had hubris. Elvis Presley might have, but not Jerry Lee Lewis. Jimmie Carter but not Lester Maddox, and so forth. In Nashville in 1912, just as in Orlando 1980, we collected not a circus of loons, as the extracts from the talks I have read to you might suggest, but the cream of the Southern crop, the best educated, the most respected, the eminently successful. Further, they really wanted what was best for the South, and most of what they had to say was quite sensible. They were not an assemblage of self-serving politicians interested in spoon feeding the public ideological pap made like grits from lotuses, the fabled food of dreamy forgetfulness. They were practical, dedicated men and women who truly desired a better world and earnestly wanted to plan for it. Probably they felt that world could be achieved, and so they were both dreamers and pragmatic operators in the real world of human welfare. But they were themselves human, and fallible, and in many instances wrong. They thought they had the answers but they were really part of the problem. They were very optimistic, and their hubris combined with their optimism and their high status made them curiously enough a dangerous organization--an organization linked by common assumptions more than by any formal ties--and there is no doubt that while they were in many areas of social benefit very helpful, they were also very destructive as well.

The experts gathered in Nashville had their dreams of tomorrow though, just as we, just as Scarlet O'Hara. They would not have been Southern I suppose if they had not been compelled by dreams of a better life--of the best life--in the future, in the South. From the start poets and playwrights saw the South as a dream world, as a paradise. Michael Drayton in his poem "To the Virginia Voyage" wrote in 1606 to John Smith, one of the South's first dream merchants, "And cheerfully at Sea,/Successe you still intice,/ to get the Pearle and Gold,/ And ours to hold,/ Virginia,/ Earth's onely Paradise." Smith himself wrote that "the mildness of the aire, the fertilitie of the soile, and the situation of the rivers are so propitious to the nature and use of man as no place is more convenient for pleasure, profit, and man's sustenance." Two years before the ill-fated Jamestown settlement, the Elizabethan playwright Ben Jonson though not a Southerner captured the dream as well as any writer since (in Eastward Ho!). "I tell thee golde is more plentiful there than copper is with us; and for as much redde copper as I can bring, I'le have thrise waight in golde. Why, man, all their cripping pans and their cahmber pottes are pure gold." The tone of the appeal if not the specific language is reminiscent of advertisements for sunbelt condominiums or calls by state officials to manufacturers to locate in the South. Even William Faulkner, so much of whose work deals with the peculiar doom visited upon the South, has one of his characters deliver a kind of invocation, praising "this land, this South for which He has done so much with woods for game and streams for fish and deep rich soil for seed and lush springs to sprout it and long summers to mature it and serene falls to harvest it and mild winters for men and animals."

But the writers realized that in addition to this dream of the South, this hope of the future bliss that life in the South could bring - still a compelling hope as Martin Luther King reminded us in his "I Have a Dream" sermon - a dark side exists in Southern life which is in fact the dark side of human behavior made darker still in contrast to the bright, broken, idealistic dreams that the Southern landscape is littered with. Langston Hughes, who recaptured so much of the South in two lines of a poem of his when he described "the lazy, laughing South/ With blood on its mouth," also wrote of that dark side when he asked

> "What happens to a dream deferred?
> Does it dry up
> Like a raisin in the sun?
> And fester like a sore -
> And then run?"

Faulkner too in a famous passage in his story "The Bear" writes of "the land accursed. . .already tainted even before any white man owned it. . .the new land, which He had vouchsafed them out of pity and sufferance, in condition of pity and humility and sufferance, on condition of pity and humility and sufference and endurance."

Now what has William Faulkner to do with the education of the future? He makes us examine the past upon which we base our future, and what he finds in that past is a frightening display of hubris, of an absence of pity and sufferance, and the presence of such great corruption in the land as to constitute evidence of a curse upon it. People do the educating, and people are the educated, and the people are imperfect and corruptible. That sounds rather like an old time fire and brimstone sermon, does it not? Very much out of place at a conference dedicated to the improvement of education by the most modern and up-to-date techniques utilizing equipment and technology that seems sometimes more than modern and up-to-date, making me fear that perhaps what we have is the convergence of the machinery of the future and the mind of the past, that it may be Cain's hand that presses the button starting the day's printout. But that seems too gloomy and dreary an idea to contemplate this Monday morning so close to Disney's world of the future.

I will use Faulkner as a bridge to other Southern writers and to the rest of us convened here, because we are most of us like he, Southerners, we live on the land though not off it, and we still are haunted by the good dreams the land seems to bring us just as it brought them to the people at Nashville in 1912. Faulkner wrote very little about the kind of formal education we are concerned with. One of his characters (Quentin Compson) goes to Harvard and commits suicide. Another (Temple Drake) goes to Ole Miss and turns out to be more corrupt than the man who rapes her and installs her in a bordello and hires another man periodically to rape her while he - not a college graduate I should add - watches. Perhaps we should be happy he dealt so rarely with the subject. But even though he wrote often and intensely about man's depravity he still dreamed of something I assume we are trying to achieve here, our need to teach ourselves "that the basest of all things is to be afraid," and to create space in our intellectual workshops for "the old verities and truths of the heart. . . love and honor and pity and pride and compassion and sacrifice," things we learn about on our own, and usually without the aid of sophisticated educational hardware.

Writing out of an awareness of constant human defeat Faulkner strives for human victory. He is one of those Southerners Hugh Holman has written of, artists such as Robert Penn Warren and William Styron, "southern writers and their characters [who] have known what it is like to surrender their best hopes to the worst disasters, then pick up the pieces with stoic fortitude, and begin to make another dream that though lesser is equally doomed." But doom has a way of turning into dream, for the Southern writer, just as the South is always being born again from its own ashes. It is the only region of the United States, I believe, that has experienced multiple rebirths, probably a result of its strong Baptist heritage and partly a result also of its having been the only section of the country to know military defeat and occupation by enemy forces, and therefore the only section needing to rise again. One never hears of the New East or New West, but the New South is almost a commonplace of our regional culture. Perhaps the New South is our sleeping beauty heroine again, waiting for the kiss of "THE FORCE" to awaken her. Let us hope the Prince does not turn into a frog.

At any rate, study of the literature of the South should familiarize us with the fact that from the very start, one group of Southerners has seen the land in exceptionally optimistic terms, as a kind of paradise, while another group of Southerners has tended to focus not upon the hope of Jamestown, for example, but on its awful aftermath; or as Faulkner did, to look at what the white man made of the gardenspot he was given after he stole it from the red man, and forced black men and women to slave upon it. The literature of the South is a literature of extremes: Thomas Nelson Page, one of the most popular promulgators of Southern myth, said in a book of his called The Old South that "Whatever assaults may be made on that civilization, its final defense is this: The men were honorable, and the women pure." Most pages in the works of Faulkner, or Robert Penn Warren, or Flannery O'Conner, or Richard Wright, to name just a few 20th Century Southern writers, will not support this view.

What is the relevance of all this to a conference on the education of the future in the South? Simply that such a conference should beware of hubris, overweening pride, that it should take into consideration the possibility that the dream of the future it says it can determine that we can create, that in fact public education will be able to lead us to, if it succeeds in incorporating the best technology which is the revolutionary new force in public education coupled with the most expeditious of all possible systems approaches to produce the ultimate educational Eden - the conference should, I repeat explore the chance that it won't happen the way we would like it to. Some of the writers I have mentioned I believe would question the euphoria upon which the educational mission of this conference is based on the grounds that for one thing, we are not as good as we think we are, not as wise, not as sharp. We should dream with grandeur and with pride of what we might accomplish, but with some humility also, some sense of what I can only call - and I should be speaking on a Sunday here not a Monday - our corruption which we have so frequently demonstrated along with our greatness.

Our goal here at the Conference is to produce better teachers for example, when maybe it should be to produce as good teachers as we now have in the terrible world they must have to deal with when they teach. Teachers these days feel like an endangered species. They "don't get no respect." Harsh criticism of them is general and frequent, and most of the ones I know are doing as good a job as is humanly possible. Some would get the impression from reading the advance publicity for this conference, especially teachers in the liberal arts and humanities, that you are going to wire them up in some way and plug them to a computer and program them to heavenly heights of skill and efficiency.

I would now like to comment more briefly than I have to this point (I am more than halfway over if you are getting the feeling that you will be put to sleep instead of the Beauty of our legend) on some possible attitudes the writers of the South that I admire might have towards another dominant theme of this conference, that the techniques of commerce and the machine are going to be the chief means by which the educational New Jerusalem is going to be achieved.

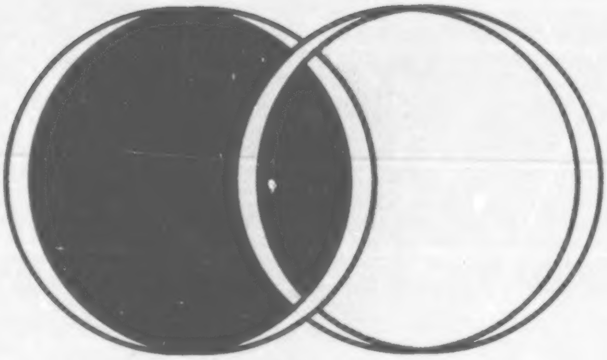
The best Southern writers tend to be men and women with a strong sense of individuality, people who work by necessity and choice a great deal of the time alone, using mainly the resources of their own brains and memories and stocks of words. They are people quick to apprehend the irrational component in our behavior, something that they depict as existing for good and for not good too. Traditionally Southern intellectuals have been anti-organizational (the nonintellectuals sometimes also - witness the variously-gauged railway systems plaguing the Confederate supply system during the war) and anti-machine. Jefferson's imprecations against the cities and industry are too well known to need repeating. In 1930 the New Agrarians, 12 Southerners most of whom were connected to Vanderbilt University, a collection of fine poets, critics, novelists but not necessarily deep political thinkers, declared in I'll Take My Stand a decided preference for what they defined as the agrarian values if not the agrarian economy of the old South, featuring a slower, more personal, more enjoyable way of life, as Fred Hobson has written of them. Andrew Lytle, a Southern writer and critic, declared that "The agrarian South. . .should dread industrialism like a pizen snake."

Often the language of our present conference is the language of a sales economy, of an industrial operation, of the corporation. It is the language of time-study efficiency and the corporation marketplace, of the machine showroom. There is no language of play and spontaneity, so integral to educational vitality. There is a tendency to treat learning as a package commodity, to be transported to the community through the "delivery of education services." We have not at all suprisingly the brisk sure manner of an entrepreneurial prospectus and an absence of poetry. "As educational problems are defined better and citizens assume more responsibility for solving them" we are told, solutions for all problems can be found within the resources of the region. This seems to me the intellectual equivalent of wham, bam, thank you mam. At the University of South Florida we are constantly bombarded by various task forces usually sent from Tallahassee, requiring data they will formulate into statistics defining problems: define it and you solve it is the assumption. There is THE FORCE telling us a need to "develop new organizations for education that effectively utilize all available human resources and educational technology." To the Agrarians I think that would sound exhausting, deindividualizing, mechanistic, and possibly futile. The Agrarians were often wrong - they were for example quite unhistorical and racist in their view of black life. But I do think they would question the call to use "the computer to manage instruction in the classroom. . . .for futures forecasting. . . to manage your personal life." Last week we were told that the desired scheduling plan we wanted to use in our college under the new semester system could not be mastered by our computer so we could not use it. We responded both rationally and irrationally: one suggestion was to get a new computer or hire smarter experts to reprogram the one we have now. A vastly cheaper but not totally reasonable alternative was to rehire the same elderly women with pads and pencils that formerly handled scheduling for us before the computer revolution. Some people used to think human nature was infinitely perfectible. Now we have transferred that faith to computers.

Of course I am guessing about what I think the older Southern writers would have felt about being on the "cutting edge" of the technology revolution, because most of them died before it arrived. The contemporary Southern writers that I have met, novelists such as Harry Crews and Wesley Davis and poets like James Dickey and Robert Wallace, the artists such as Ernest Cox are by no means luddites, those strange romantic rebels who went around breaking up the powered looms they felt were wrecking 19th century English life. The writers benefit from the medical advances technology has brought us. I myself use a Texas calculator to figure out how much my account is overdrawn each month. But these same contemporary Southern writers - all of whom work in universities incidentally and so are also teachers - will I know be skeptical about the merits of "a data system that will provide easy access to a set of social, economic, and educational indicators useful in making educational policy decisions at state and regional levels." Their skepticism will result from a knowledge of how badly information is collected because for example frequently data gathering is a clumsy attempt to turn qualities into quantities by the new alchemy of the statistician (two students grade a teacher on a one to ten scale, the first puts down a one the second a ten, so the teacher is statistically determined average); they would be dubious about easy access to anything because they will suspect that what is easy is easy because troublesome but significant complexities have been lopped off; and mostly I think they will be skeptical because their own experience in a world that is imperfect tells them that information you are informed by one level of a bureaucracy will provide "indications useful in making decisions" often will become at other levels the inflexible statistical basis for absolute mandates.

But I think I have played the role of Carabosse, the old hag long enough. It is after all a role, and not one that I am entirely comfortable in, feeling as I do, as I am sure all of us do, that we really don't want to doom the baby to a life of eternal sleep - feeling that we cannot hold back the changes that are bound to come in education in this new age, even if we wanted to, which I suspect we do not. I did want to indicate however, that if we look at the past in the literature and culture of the South, we will find a few disquieting voices that should be listened to, if we are going to make this latest rebirth, the newest frontier, worthy of our support. Bruno Bettelheim treats fairy tales as ways children have of coping with and not escaping reality, and perhaps here we should follow our children. Having heard Carabosse's threats of doom, perhaps we will be better prepared to triumph in the adventure that we are setting off upon in our conference. The major Southern writers, as I mentioned before, may have written a literature filled with defeat and tragedy, but they have not created a literature of despair, and the best of them - Faulkner, Ellen Glasgow, Warren, Richard Wright, and others, have always possessed also a curious optimism which has pervaded if not dominated their work.

There have been in the past of the South many frontiers written about: the Atlantic frontier, the Tidewater frontier, the Appalachian frontier, the Old Southwest, the Mississippi Basin. At the end of the nineteenth century the historian Frederick Jackson Turner defined the frontier as "the cutting edge of civilization, the point where the ax hits the tree." Perhaps today we would have to say the frontier is where the fingertip of the person working for the system poises over the dial or button or whatever activates the computer machine. Turner's definition is more beautiful to me, but if the other picture shows us more accurately where we are now in education's frontier, we had better do as good a job as possible - only we had better watch out also, we could still prick our fingers. After all, we're human. Unlike machines, we bleed.



ruralism and the future of education in the south

Industrialization in the rural southeast: the role of education

FRANK A. FRATOE

Nationally during the last two decades, more new industrial jobs have been created in rural areas than in metropolitan centers. This reverses the previous historical trend of concentration of industrial expansion in our near cities and has been concomitant with the demographic turnaround whereby rural America has experienced faster population growth than urban places (33). The Southeast has gained a large share of the increase in rural industrial development by adding over fifty percent of all the nation's rural manufacturing jobs produced during 1962-1978. In the same period, almost forty percent of the private-sector, service-performing jobs (in trade, finance, professional and personal services, etc.) added to rural labor markets has been recorded in the Southeast (27). These figures reflect the high rate of broad-based, industrial growth which has occurred throughout the Southeast as a whole, but particularly in its rural areas (65).

"Industrialization" (or "industrial development") sometimes is used to mean the establishment of new or expanded manufacturing plants to the extent that such industry becomes a major element in local employment structures (33). However, because job development in the rural Southeast has encompassed such a wide array of manufacturing and nonmanufacturing sources, the concept of "industrialization" applied here will use its more comprehensive sense to include expansion of all nonfarm, profit-making enterprises, i.e., all nonfarm business. This allows a more accurate portrayal of business and employment patterns in the rural Southeast where so much of recent growth is projected for the future, despite the continuing importance of manufacturing (16, 27, 76). To clarify another conceptual matter, "rural Southeast" will refer to small towns and sparsely populated areas in the region extending from Arkansas and Louisiana eastward to the Atlantic, and from Kentucky and Virginia southward to the Gulf.

Background of Rural Industrialization

Several factors have led to increased rural industrial development in the Southeast and other regions. One concerns the efforts by the federal government through various legislative acts and programs to promote rural economic development. Federal policy has been designed to achieve such goals as balancing population distribution and economic growth, reducing unemployment, obtaining greater income and less poverty for rural people, upgrading the availability and quality of basic services, absorbing workers released from the farm sector, and reducing massive rural migration to cities (5, 70, 80, 82). Another factor is the determined effort by some states and local communities to bring industry to rural areas. Using a variety of techniques, ranging from special industrial recruitment agencies, to inducements like tax exemptions or other subsidies, state and local governments have done much to encourage the industrial activity that many citizens and political leaders see as the chief means to overcome economic problems (5, 36, 70). But the private sector has perhaps supplied much of its own impetus for rural industrial development by perceiving special locational advantages in rural places. There, labor costs are usually less, land is cheaper, raw materials and water are more readily available, while improved transportation/communication networks now give access to large markets and supplier sources (5, 15, 30, 80).

The literature on rural industrialization contains some fairly extensive analyses of the advantages, as well as disadvantages, which result from it. There is little doubt that, in the Southeast as elsewhere, industrial growth generally brings greater economic opportunities to local communities. The economy becomes more diversified, there are more options for rural workers as the labor market expands, incomes increase, and many multiplier effects occur as payrolls diffuse through the local economy to help encourage capital accumulation. Indeed, advantages are so numerous that a majority of rural residents who have experienced industrial development want more (5, 68, 70). Yet, there are clearly negative effects which cannot be ignored. As incomes increase, so do prices and taxes as the general cost of living goes up. Where industrialization is accompanied by large population growth, existing facilities and service delivery systems are strained beyond effective capacity. Economic benefits may "leak" to other communities because workers spend their earnings elsewhere. Most damaging is the related fact that new job opportunities often do not go to the local underemployed but to commuters or in-migrants who have more education and better skills. Thus, community expectations about employment benefits are sometimes unrealistically high (5, 47, 56, 68, 69).

The latter point underscores the importance of a well-trained, local labor supply in the industrialization process. Communities that can offer such a work force will probably enjoy a locational advantage over areas which cannot do so. While it is true that many industries locating in the Southeast have needed only low- or medium-skilled workers, others have needed more highly skilled employees to accomplish production and service goals. They have also required a talented, educated managerial staff to guide operations. When skilled employees and managers are not available locally, industries may have to bring in personnel from the outside, or perhaps even be forced to relocate their operations. In both cases, the potentially significant economic and employment advantages to a local community will not be realized (30, 34, 53). The critical contributions of a trained labor force to industrialization in the rural Southeast will be a major theme in the following sections.

Four Problems Associated with Industrialization in the Rural Southeast

Review of the research and development literature on rural Southeastern industrial development reveals four key problems which are at least partly amenable to educational solutions through policies designed to develop a skilled labor force. There is no intent here to argue that education alone can solve all problems associated with industrialization, only that it has an important *role* to play in overcoming the special difficulties to be examined. Policy makers in both the public and private sectors should consider this role when formulating measures to promote rural industrialization or deal with its consequences. By implication, educational solutions could be determined relevant to other specific issues not considered here.

1. *Tendency of industries to locate elsewhere than in areas with large numbers of poor*. Despite considerable economic expansion in recent years, the rural Southeast is still the greatest poverty zone in the country. More persistently low-income counties with chronically deficient human resource development can be found there than any other region of the country (13, 15, 16, 26). Industrial growth within the rural Southeast has tended to avoid poor counties, most of which have heavy concentrations of underemployed whites and blacks. But even when enterprises have located in the areas, they have usually hired local people for low-paying unskilled or semi-skilled jobs, while better paying positions have gone to in-migrants (38, 67, 69, 71). Although other factors like racial/ethnic discrimination may have a bearing, undoubtedly the lower quality of the labor force greatly affects the situation. This labor force is composed mainly of the poor who have received relatively little schooling, formal skill training, or even on-the-job training in many cases (66, 68, 79). The implication is that poor rural people living in areas with the greatest need for industrialization are being bypassed because they do not have enough skills or education (62, 67).

2. *Shortage of rural residents with managerial expertise*. The transition from an agricultural to an industrial based economy in many places in the rural Southeast means that workers coming into the new plants and business firms need - beyond training for the new work functions they must perform - effective guidance by supervisors. Effective management is always important, but it is especially critical for encouraging the highest productivity from workers who come from economically disadvantaged backgrounds (23). However, there is evidence of a shortage of local managers with expertise. Many rural firms are only marginally successful because of deficient management; they have high

personnel turnover rates and inefficient production because of poor supervisory practices. Companies often find it necessary to import their managers from metropolitan areas where there are more and better trained personnel with the managerial qualities necessary to plan objectives, organize resources, and motivate workers to do the job. Not enough rural residents have been trained in these special skills to enable them to move from employee to management status (7, 12).

3. Slow growth of high-wage, high-technology industries. There is a fairly high consensus of opinion that industrial growth in the rural Southeast has been too heavily concentrated in labor intensive, low-wage enterprises with insufficient emphasis on the development of higher wage, technology-oriented industries now constituting the fastest growing segment of the U. S. economy (25, 39, 46, 61, 67, 68). Although some recent improvement has occurred in the ratio of high- to low-wage industries in the rural Southeast, the large pool of underemployed and partly skilled labor continues to attract labor-intensive businesses offering relatively low wages and the least stable operations. They are the industries most likely to close or relocate, while providing wages which have not brought the earnings of rural workers up to national averages (25, 39, 68). Projections for future growth in the Southeast (both rural and urban areas) predict the greatest job expansion in industries employing scientists, engineers, technicians, and other highly skilled workers with the technological background to manage complex equipment and processes. That may not happen, however, if the labor force in the Southeast lacks the educational foundations and skills training to meet requirements of the new industries (57, 76).

4. Unpreparedness of rural people for small business opportunities. Some observers have argued that analysis of industrialization in the rural Southeast has placed too much stress on large-scale industry. They see the need for increased opportunity for self-employment opportunities in small businesses to satisfy unmet local demands for services or products. Growth of successful small concerns often attracts imitators along with others dependent on goods/services generated by the new businesses (28, 50, 63). Unfortunately, rural residents sometimes do not recognize opportunities in entrepreneurship or, when they do, are not always sure how to pursue them. Technical advice and practical guidance on how to overcome the initial obstacles to establishing a business would be very helpful. So would training in the management and technical operations needed to maintain a small business, including forms of marketing, pricing policies, hiring practices, etc., (6, 28, 75). However, entrepreneurship as a career opportunity has been generally ignored by the educational system, particularly in rural areas. Schools and training centers could do more than just prepare students for work in large, existing industries but also teach them entrepreneurial skills as well, which would be particularly valuable for economically disadvantaged residents in the rural Southeast much in need of self-help and community leadership initiatives (50, 58).

Upgrading the Education and Training of the Rural Poor

General Education. A major cause of the failure of industries to locate where the rural poor are heavily concentrated is the generally lower quality of the labor force. General education has a role to play in improving labor quality by increasing the basic skills and educational attainment of people already in the work force or others who will enter it. But poor people in the rural Southeast often live in places which cannot provide the variety of educational services found elsewhere because of inadequate facilities and few financial resources. Underinvestment in educational development is reflected not only in low attainment but in relatively lower achievement and the gradual decrease of motivation (16, 32, 79). The rural poor could use a whole range of better educational services to help improve their condition: expanded curricula, special teacher preparation, better library facilities, greater access to counseling, new postsecondary offerings, more support staff, more extensive preprimary and adult education programs, and so on. Government is the first logical choice, of course, to provide the services through more equitable funding arrangements or new delivery mechanisms. The private sector, however, could do more to insure that schools have adequate resources by supplying some of the needed services through their own community development activities (8, 19, 41, 67).

Programs to upgrade education of the poor can be effective only if combined with efforts to spur economic growth. Simply increasing the educational levels of the rural poor without providing jobs in which more schooling can be utilized will probably result in further migration of well-educated rural people to urban areas where there is greater demand for their abilities. Education and rural industrial development are related in another way. Many jobs now available to the poor in Southeastern rural labor markets do not require high levels of schooling. There is little reason to get advanced formal education to enter well-paying, higher status occupations when so few exist. But not having more schooling virtually guarantees ineligibility for whatever better opportunities do occur (16, 48, 79). On the other hand, development may not proceed beyond elemental stages without a capably educated labor force.

Vocational Education. For the same reasons, vocational education programs should be closely associated with economic and industrial development. Through vocational education, students learn about work along with how to perform work roles, two aspects crucially important for the Southeastern rural poor who need to understand occupational opportunities first and then have a wide range of career training alternatives. Yet, there is little point to their education if they are trained for jobs that do not exist or develop unmarketable skills. This is precisely why it is necessary to coordinate activities to achieve rural industrial expansion (which produces more jobs) with vocational programs to train workers (preparing them for the new job openings). States in the Southeast have embodied such a philosophy in the extensive systems of community colleges and area vocational/technical centers, many serving rural citizens, that have been created in recent decades. Other agencies, like the Appalachian Regional Commission, continue to aid the institution-building effort to meet the vocational education needs of industry (4, 53, 74).

Despite the fact that vocational training institutions are now located in many rural areas where they were not present before, access is still a problem for poor and isolated residents who cannot afford travel costs even if transportation is available (19, 64). Mobile facilities and satellite training centers set up in local communities have been somewhat effective in overcoming the access problem and could be utilized more. But another method would involve supplementing service delivery systems like area vocational centers and mobile facilities with local community training resources. For example, a contract procedure can be set up linking students interested in learning a particular skill with a person possessing that skill within the community. A negotiated contract will identify costs of training for a businessman/instructor to get students to a specified proficiency level. Contract vocational education uses untapped skills found locally, reduces the need for more institutional equipment and personnel, and makes access to training less difficult (28).

Employment Training. While better general educational services and vocational instruction are certainly important, employment training programs that raise the job skill levels of the rural poor may be the most direct method for achieving employment growth (79). Training can be job specific, or for generalized higher skills needed for better jobs or in basic education areas like math skills. Such programs could help ensure that disadvantaged residents are not bypassed by the employment benefits generated through rural industrialization. By no means should employment training be confined to public direction alone; private firms and unions can be encouraged to participate in or independently conduct training assistance projects, especially where there are large supplies of unskilled workers (1, 70). Unfortunately, several obstacles hinder the full realization of objectives. Relatively few rural governments or private organizations have enough expertise in planning and delivering employment training services, a notable problem in rural Southeastern counties with large minority populations (21, 68).

Even when a rural employment training operation is established it often is not effective in reaching low-income, underemployed persons because they lack knowledge about both the existence of the local program and the procedures required to gain admission to it (22, 66). Poor access to distant training sites blocks some prospective users because they cannot afford the excessive travel costs. Financial/technical assistance as well as "outreach" information activities to recruit, tutor, and place rural workers as jobs emerge would be beneficial. Employment training can be made a more effective instrument for enhancing the capabilities of rural poor people and attract industry impressed by their work readiness (68, 72).

Industry Services Programs. Most states in the Southeast have combined features of vocational education and employment training in special industry services or "start-up" programs, usually coordinated by a state agency. They are primarily designed so new and expanding businesses can have a skilled labor force ready to go when production begins, thus reducing start-up time. The programs offer a way for public agencies to participate in recruiting and training workers for private industry who have needs beyond those met by ordinary employment training or vocational education curricula. Industry services programs are short-term, focus on small groups of trainees instructed in job-specific tasks, employ vocational education or industry personnel as instructors, and use schools or company plants as training sites. They have become a major industrial recruiting tool by furnishing businesses with a tailor-made labor force of qualified workers, and they are popular with community residents who can acquire the skills necessary to enter jobs available almost immediately (31, 73).

These programs seem quite ideal for training poor, underemployed workers and have been partly promoted as effective means for bringing such workers into the industrialization process. But analyses of industry services programs in the Southeast have shown that they are more successful in attracting industries to counties already having favorable employment conditions, high educational levels, and industrial development. Counties lacking similar characteristics, in other words areas where the poor are concentrated, benefit less from "start-up" training which appears to have only a marginal impact on upgrading work forces and affecting industry location in places needing help the most. A stronger attempt therefore must be made to focus the industry services approach on training disadvantaged workers and inducing business to locate where such workers can contribute valuable learned skills (77).

Preparing Industrial Managers

Vocational Education. The chief goals of any management training program are to improve productivity and reduce turnover of personnel resulting from poor management. An additional goal, important for consideration here, is to utilize the experience of existing employees by helping them move into supervisory/managerial roles. When promotion from within occurs, higher status positions often go to local residents rather than outsiders. Promoting employees from within is not an effective policy, however, when educational deficiencies do not allow them to do their work properly. In some traditional industries in the rural Southeast, persons may be advanced to supervisory positions with relatively little formal education or special training. Pressures created by advancement can be impossible to handle without instruction in basic communications skills and human relations (7, 81). There are several ways to equip existing or prospective managers with the necessary skills. Companies may undertake their own training programs, a method to be examined shortly, but vocational education is a viable alternative not always given the attention it deserves.

Some of the vocational/technical centers in the Southeast have instituted on-campus programs to upgrade industrial supervisory personnel through courses in principles of management, communications, and labor relations. The courses may be general in nature or "custom designed" to meet the unique needs of particular industries trying to improve their management resources. Similar instruction is carried out by vocational education personnel at the work site according to company requirements. In either case, the company bears most of the expense by paying tuition and perhaps even covering instructional costs. Vocational education institutions strengthen their role as a contributor to industrial development while expanding their services and enrollments; in return, business firms receive the benefits of a more highly skilled managerial staff (20, 81). Greater application of the techniques of linking vocational education and industrial management ought to be explored.

Extension. An even more neglected source of opportunities for the managerial training of rural people is the Extension Service. The Extension system is a cooperative arrangement embracing federal, state, and county agencies in the attempt to extend educational programs from land-grant universities to local communities. Originally, it placed emphasis on teaching farm people useful skills in agriculture and home economics but now offers more subjects to a wider constituency. Programs are conducted locally by county Extension agents who receive administrative and research support from the state land-grant university. Extension personnel literally have decades of experience in helping to develop managerial competencies for individuals pursuing farming and other agriculturally oriented enterprises. In recent years, their expertise has been made available to nonagricultural industries where management skills for the effective use of labor are emphasized (7).

Extension staff members in the rural Southeast and elsewhere have conducted workshops that enable managers to guide employees more productively in setting work objectives, assigning responsibility, and rewarding and disciplining performance. Other sessions have been held to train managers to become better trainers themselves so they may undertake OJB activities for upgrading employee skills (7). The "how-to-train" employer/manager development workshops thus become indirect means to serving better skills training for employees, a notable contribution when companies have large numbers of disadvantaged workers and must instruct them on-site using regular supervisory personnel. The Extension record in directly training disadvantaged and minority rural residents have been varied, though, and leaves room for new initiatives (18). Since most Extension management preparation programs focus on small businesses, further discussion will be reserved for the section which treats that subject.

Company Training. As noted above, private companies do pay for the training of their personnel at various outside facilities like vocational institutes and send executives to special courses at universities (11, 35). But often they provide their own in-house programs in which company human development specialists conduct teaching activities in management technology and other fields. So extensive have company training programs become that they are now a major part of the nation's educational effort. Millions of people participate annually in some form of company training to increase their skills, qualify for better positions, learn technical operations, or supplement their schooling. In design and method, company training programs have furnished innovative examples for the formal educational system, especially in such areas as the adoption of instructional technologies and the blending of classroom study with problem-solving experience (35).

Although there are no studies known to this author on the use of company training to enhance managerial proficiency in rural Southeastern industries, the practice probably is as widespread there as elsewhere in the country. The nature of modern industry everywhere requires training adaptations to almost continuous changes in the skill and knowledge needs of business operations. For supervisory/management duties to be performed adequately, managers must have access to an accumulating body of knowledge ranging from operations research to the behavioral sciences. They need practical information about government regulations and other noneconomic influences affecting the work environment. Guidance is also essential in human relations matters like identifying "high potential" workers or providing psychological "motivators" to induce employee satisfaction and productivity (23, 35). Company training, as an instrument for preparing rural people for managerial positions, has almost limitless possibilities.

Aiding Growth of High Technology Industry

Company Training. Projections of future industrial growth in the Southeast (both urban and rural areas) indicate that the greatest expansion will take place in enterprises highly oriented toward technology, e.g., instruments, aerospace, telecommunications, electronics. The forecast for even traditional industries like textiles is one of increasing technological dependency as operations grow more and more automated (9, 20, 29, 76, 81). In the high technology production processes these concerns must employ, the knowledge required to achieve production becomes increasingly complex. Their products are less the result of investment in raw materials and unskilled labor than investment in scientific/technical knowledge. As a matter of fact, knowledge is so essential that a whole new class of service workers is entailed, people who are skilled in generating and transmitting the information on which high technology industries depend (9). The growth projections just mentioned will be illusory, however, unless large numbers of both blue-collar and white-collar workers possessing well-developed scientific/technical expertise are available.

Companies dependent on high technology can do much themselves to ensure an appropriate labor supply by training their own workers. As new production processes make some skills obsolete, particularly ones involving simple and repetitive tasks, new skills can be taught to fill more complex technical roles. Industries gain by turning a human resource investment into better work performance and productivity, ultimately improving their competitive position. Workers increase their knowledge base for expanded skill development while qualifying for more rewarding positions. Persons unable to adapt to a changed work environment may find their services in little demand as many less-skilled jobs are eliminated. Management and labor both have great incentives to promote company training programs, and both are already doing so in certain high technology industries which train their own computer specialists, engineers, equipment maintenance workers, and others, because of rapid changes demanding the constant refocusing of worker skills (14, 29, 35, 57).

Vocational Education. Companies cannot be expected to carry the entire burden of affording technological preparation for their employees. General and vocational education resources could also be used for this purpose. Vocational institutions have an especially important role in training more highly skilled workers in the new technology. There is evidence that vocational education institutions in the rural Southeast are already well aware of their responsibilities and are acting to establish programs which will help supply a labor force capable of supporting the growth of high technology industries. Rural vocational schools are now teaching technical courses formerly unknown in rural curricula. Secondary and postsecondary institutions are initiating training programs in energy development such as coal mining technologies, oil production/processing, and solar energy usage (2, 40, 55, 81). Further activities within the vocational education system could greatly assist future rural industrialization in the Southeast.

But fulfillment of that objective is hampered by a difficult problem faced by vocational education administrators. How do they maintain up-to-date equipment in the classroom for instructional purposes when equipment is so expensive and the technology it represents changes so quickly? Classroom based technological training becomes less applicable in a realistic manner under those conditions (20). One alternative solution is to encourage industries to donate equipment to vocational schools so they can set up work-like simulations on campus; some companies already have done so with good results. Or the schools could maintain programs in the basics of technical instruction while leaving actual training to be handled entirely by companies on-site. A third alternative combines features of the first two in that vocational schools provide basic instruction and some advanced teaching on classroom equipment, but the bulk of the later occurs at industry locations through programs coordinated by the schools. Vocational education faculty and company experts could both participate in cooperative training programs (20, 81). Educators undoubtedly will have to consult with industrial managers to determine which option is most appropriate for their area.

General Education. The intellectual foundations of modern technology lie in science and mathematics. Without thorough preparation in the two disciplines, rural Americans will not be ready for advanced technological training even if public and private organizations make more opportunities available. Rural schools have experienced historic deficiencies in science education because of inadequate or absent laboratory facilities, and in both science and math instruction because not enough specially skilled teachers are present. Nowhere are the shortcomings more manifest than in the rural Southeast where national assessment tests have shown students scoring lower than pupils from other regions on every aspect of science and math: knowledge, skills, understanding, and application (43, 44). Moreover, scores have been declining in the Southeast, as has been the case in every region, reflecting a grave national trend with implications for America's future technological competitiveness in world markets. Comparative data indicate that American students now are weaker in math and the physical sciences than their counterparts in other industrial nations where more years of study are required in those subjects (42, 52).

There is thus a national stake in improving the math and science skills of all the groups, including rural Southeasterners, who have most serious needs. The public sector can contribute through increased funding, more in-service education of teachers, emphasis on math and science instruction during high school years (one-half of all students take no science after the tenth grade), and special programs for the disadvantaged (10). The private sector could do much to supplement efforts by offering company personnel as instructors in classrooms, bringing in students for on-site instruction by industrial scientists and engineers, conducting summer training programs for teachers, and giving laboratory equipment to schools (10, 78). Perhaps it is also time to consider technical competence in science and math as an indispensable part of basic education.

Educating for Entrepreneurship

Extension. The Extension Service has long devoted attention to management and production methods in farm enterprises. It is now doing the same for small, nonfarm businesses operated by rural people in the Southeast and other sections of the country. Management is the key to a successful small business operation and Extension offers management education workshops on critical problems facing a small business owner. The mechanics of starting a new enterprise may seem obvious to everyone except those who have tried to deal with the financial, legal, and social problems involved in doing so. Extension furnishes a nearby information source where rural residents can go to at least learn fundamental techniques of starting and operating a small business while obtaining awareness of other, more advanced or specialized knowledge sources. Extension entrepreneurial development programs can serve a very useful function in encouraging only well-informed people who are fully aware of risks and requirements to pursue the goal of a small business venture. Instruction alone in finding potential lending sources, e.g., banks or government agencies, would be extremely helpful. If that is added to training in objectives planning, time management, performance appraisal, communications, and financial management - then one has a quite viable program for assisting the prospective business owner. Even existing owners can profit from such Extension entrepreneurial activities (37, 60, 75).

Despite its potential for helping the rural entrepreneur, the Extension small business development program is still relatively limited in scope. The service's more traditional functions continue to have priority and receive the largest resources. There do not seem to be any specific analyses of the program or any systematic evaluations, perhaps because of its small nature. However, evaluation of other Extension programs shows some problems that probably apply here as well. Few linkages exist between Extension and other training agencies to strengthen its complementary role. Extension personnel do not have enough in-service training to familiarize them with business and employment training needs. And, as pointed out earlier, there is insufficient participation by minority groups (18).

Vocational Education. Vocational education has traditionally prepared youth and adults for jobs which would make them workers under employers who direct large-scale business concerns. It has not done a great deal to train students for business ownership, with the exception of some programs in vocational agriculture and distributive education. While other courses have focused on the American economic system and business management, they have been mainly intended to prepare students to be well-informed citizen/employees, not potential entrepreneurs (6, 28, 50, 58, 63). There is no reason why vocational education students should not have the opportunity to enter a carefully planned instructional program to help give them the competencies required to be successful in business ownership. Entrepreneurial development programs can combine resources (many of which already exist) such as courses, texts, materials, business theories, and teaching expertise with hands-on business experience for trainees. Although the personal characteristics of achievement, motivation and creativity possessed by prosperous businessowners cannot be taught directly, they are analyzable to encourage student self-direction. These programs could be productively instituted at secondary as well as postsecondary levels (6, 58).

For rural people in the Southeast where the range of small business models is more limited than in cities, exposure to diverse business environments is critical. They must be made aware of entrepreneurial skills in the classroom, of course, but they also should have opportunities to observe and practice the skills through contact with a variety of self-employed people. Effective student projects involve the direct help of businessowners who can show graphically how decision making, risk taking, and using information play central roles in business operation (59). Not only students but vocational education instructors may profit by direct work experience in the private sector. The new skills gained and processes learned assure that practical know-how will be passed on to students to prepare them realistically for the school-to-work transition and give them a better choice regarding the types of business opportunities open (54). Teachers and students can also learn from business personnel who come to the schools and teach skills there, in effect becoming adjunct faculty resources to vocational institutions (51, 78).

Training by Community Enterprises. One cannot consider only formal education channels or outside agencies as sources for entrepreneurial development. Rural communities in the Southeast have already done much themselves to organize locally-owned small businesses and educate their residents in the skills necessary to operate and expand the enterprises. For example, community development corporations have been founded in several rural areas. They are a useful instrument for industrial/business development in places where there are large numbers of poor and where major industries seldom locate because of the lower quality labor force and thin profit margins. Community development corporations set up profit-making enterprises which train their own employees on-the-job and even initiate work-study programs to instruct the previously inexperienced in management skills. They have the potential to become a catalyst for further economic development by demonstrating that a skilled, employable labor force exists for greater industrial expansion (3, 63, 79).

Other community based ventures such as student-run businesses, church-related enterprises, and work/education councils have all promoted training efforts of some kind to increase knowledge about entrepreneurship; women and youth are two traditionally neglected groups sometimes targeted for special assistance (17, 24, 49). Cooperatives, having had a long history in agriculture but now branching into other business fields, also carry out much internal training by teaching principles and techniques of marketing along with the other skills needed to organize cooperative enterprises. In so doing, they give experience in entrepreneurship to their members which, in turn, creates a positive environment for more local business initiatives. When support for community based ventures comes from government, it builds the public and private sector linkages so valuable in fostering local self-initiative to develop entrepreneurial talent (15, 45). Training by community organizations, an avenue relatively new for policy exploration, is still another way that public and private sector contributions to strengthen educational services can help solve some key problems in rural industrialization.

Summary

In this paper, the contributions of educational resources to the growth of nonfarm enterprises in small towns and sparsely populated areas of the Southeast region have been explored. Review of the research and development literature concerning industrialization in the rural Southeast has disclosed four major problems which are at least partly amenable to educational solutions. Those problems are: (1) tendency of industries to locate elsewhere than in areas containing large numbers of poor; (2) shortage of rural residents with managerial expertise; (3) relatively slow growth of high-wage, high-technology industries; and (4) unpreparedness of rural people for small business opportunities.

Various educational means for overcoming the four problems have been examined, including: upgrading the skills of low-income rural workers through improved general and vocational educational programs, plus employment training for youth and adults; preparing management personnel through company and school sponsored programs; using Extension training for management leadership development; aiding the growth of technology-dependent industries by emphasizing technological and scientific education; and use of vocational, Extension, and community enterprise programs to teach business skills needed for entrepreneurship. Although some difficulties have been discovered in applying these means, they clearly serve to foster rural industrialization by linking education and economic development in the public/private sectors. Education's continued enrichment could be highly significant for the future of the rural Southeast.

References

(1) Abt Associates, The Industrialization of Southern Rural Areas, Report Conducted for the Office of Economic Research, Economic Development Administration, U. S. Department of Commerce, 1968.

(2) Anderson, Ann M., "Appalachia on the Upswing," VocEd, March 1980, pp. 30-33.

(3) Anderson, Robert E., Poor, Rural, and Southern, Ford Foundation, 1978.

(4) Appalachian Regional Commission, A Report to Congress on the Continuation of the Appalachian Regional Commission, March 1979.

(5) Bertrand, Alvin L., "Rural Social Organizational Implications of Technology and Industry," in Rural U. S. A., Persistence and Change. Iowa State University Press, 1978.

(6) Bice, Juanita W., "Small Business Ownership: Facts Students Should Know," VocEd, May 1980, pp. 16-17.

(7) Booth, James H., "Operation Hitchhike, Manpower Planning, and Economic Development," in Manpower Planning for Jobs in Rural America. Center for Rural Manpower and Public Affairs, Michigan State University, 1972.

(8) Boyer, Roscoe A., "With Help of Businessmen, Lee County Schools Nearly Double Readers' Skills," Education in Mississippi, July-September, 1979.

(9) Bradshaw, Ted K. and Blakely, Edward J., Rural Communities in Advanced Industrial Society. Praeger, 1979.

(10) Center for Science and Mathematics Education, The Status of Pre-College Science, Mathematics, and Social Science Education: 1955-1975. Center for Science and Mathematics Education, Ohio State University, 1977.

(11) Charner, Ivan, et al., An Untapped Resource: Negotiated Tuition-Aid in the Private Sector. National Manpower Institute, May 1978.

(12) Crecink, John C., Rural Industrialization: Case Study of a Tissue Paper Mill in Pickens, Mississippi. AER-189, Economic Research Service, U. S. Department of Agriculture, 1970.

(13) Davis, Thomas F., Persistent Low-Income Counties in Nonmetro America. RDRR-12, Economics, Statistics, and Cooperatives Services, U. S. Department of Agriculture, 1979.

(14) Dean, Peter M., "Education and Training at IBM," Phi Delta Kappan, January 1980, pp. 317-319.

(15) Deaton, Brady J., "Industrialization of Rural Areas: Recent Trends and the Social and Economic Consequences," Paper Prepared for the Seminar, "The New Rural America," Sponsored by the Southern Rural Development Center and the Southern Newspaper Publications Association, February 1979.

(16) Deavers, Kenneth L. and Brown, David L., Social and Economic Trends in Rural America. White House Rural Development Background Paper, 1979.

(17) Dunne, Faith, "Today's Rural Women: More than Fresh Pie on the Windowsill," PTA Today, December 1979 - January 1980, pp. 15-17.

(18) Extension Committee on Organization and Policy, "Labor Programs in Extension," Draft Report, Extension Service, U. S. Department of Agriculture, 1978.

(19) Fratoe, Frank A., The Education of Nonmetro Blacks. RDRR-21, Economic, Statistics, and Cooperatives Service, U. S. Department of Agriculture, 1980.

(20) Gjelten, Tom, "Tri-County College: the Task of Serving Industry in South Carolina," Unpublished Report, April 1980.

(21) Godwin, Lamond, et al., Rural Jobs from Rural Public Works: A Rural Employment Outreach Experimental and Demonstration Project, Phase I. National Rural Center, 1977.

(22) Green, Bernal, et al., Deterrents to Training and Employment, as Perceived by Low-Income Household Heads in Western Arkansas. Arkansas Agricultural Experiment Station Bulletin No. 814, 1976.

(23) Grinstead-Schneider, Mary Jo and Bernal L. Green, "Adjustment Stresses on Rural Laborers in the Mississippi Delta and the Ozarks," Growth and Change, July 1978, pp. 36-43.

(24) Gudenberg, Karl A., "Toward a More Rational Education - Economic Development Connection in Rural America: The Collaborative Model," in Symposium on Minority Youth Employment and Rural Disadvantaged Youth. Institute for Economic Development and Pan American University 1980.

(25) Hansen, Niles M., "Factors Determining the Location of Industrial Activity," in Rural Industrialization: Problems and Potentials. North Central Regional Center for Rural Development, Iowa State University Press, 1974.

(26) Hansen, Niles M., "Growth Centers, Human Resources, and Rural Development," in Human Resource Dimensions of Rural Development. Center for the Study of Human Resources, University of Texas, 1977.

(27) Haren, Claude C. and Holling, Ronald W., "Industrial Development in Nonmetropolitan America: A Locational Perspective," in Nonmetropolitan Industrialization. V. H. Winston and Sons, 1979.

(28) Hobbs, Daryl, "Education in Rural America: Object or Instrumentality of Rural Development," Paper Presented at the National Seminar on Rural Education, University of Maryland, May 1979.

(29) Hughes, Chip, "A New Twist for Textiles," Southern Exposure, Winter 1976, pp. 73-79.

(30) Kale, Steven R. and Lonsdale, Richard E., "Factors Encouraging and Discouraging Plant Location in Nonmetropolitan Areas," in Nonmetropolitan Industrialization, V. H. Winston and Sons, 1979.

(31) Kentucky Department of Public Information, Kentucky News, January 21, 1980.

(32) Levitan, Sar A., et al., Still A Dream; the Changing Status of Blacks Since 1960. Harvard University Press, 1975.

(33) Lonsdale, Richard and Seyler, H. L. (Eds.), Nonmetropolitan Industrialization. V. H. Winston and Sons, 1979.

(34) Lund, Leonard, Factors in Corporate Locational Decisions. Information Bulletin No. 66, Conference Board, 1979.

(35) Lusterman, Seymour, Education in Industry. Conference Board, 1977.

(36) McLean, Edward L. and Colclough, Glenna, "Support for Industrialization as a Means to Rural Development," Paper Presented at the 75th Annual Meeting of the Southern Association of Agricultural Scientists, February 1978.

(37) Madden, J. Patrick, Rural Development and the Land Grant University; An Evaluation of Title V of the Rural Development Act of 1972. National Rural Center and Pennsylvania State University, 1977.

(38) Marshall, Ray (Ed.), Human Resource Dimensions of Rural Development. Center for the Study of Human Resources, University of Texas, 1977.

(39) Miller, James P., Nonmetro Job Growth and Locational Change in Manufacturing Firms. RDRR-24, Economics, Statistics, and Cooperatives Service, U. S. Department of Agriculture, 1980.

(40) Mills, Hugh L., et al., Vocational-Technical Education: A Plan for Monroe County, Florida, Educational and Professional Systems, Inc., March 1973.

(41) Muse, Ivan, "How Well Do We Prepare Teachers for Rural Schools?," PTA Today, December 1979 - January 1980, p. 14.

(42) National Center for Education Statistics, The Condition of Education, 1977 Edition. U. S. Department of Health, Education, and Welfare, 1977.

(43) National Center for Education Statistics, The Condition of Education,1980 Edition. U. S. Department of Education, 1980.

(44) National Center for Education Statistics, Digest of Education Statistics, 1979. U. S. Department of Health, Education, and Welfare, 1979.

(45) National Governors' Association, CETA and Rural Areas. Center for Policy Research, National Governors' Association, 1979.

(46) National Science Foundation, "Manufacturing Industries with High Concentrations of Scientists and Engineers Lead in 1965-1977 Employment Growth," Resources Studies Highlights, April 20, 1979.

(47) Nolan, Michael F. and Heffernan, William D., "The Rural Development Act of 1972: A Critical Analysis," Paper Presented at the Annual Meeting of the Rural Sociological Society, August 1974.

(48) Ogbu, John U., Minority Education and Caste, The American System in Cross-Cultural Perspective. Academic Press, 1978.

(49) Parks, Gail A., "The Foxfire Concept, Experiential Education in a Rural American Context," National Rural Center, 1978.

(50) Parks, Gail A., "Linking Education and Work in Rural Places, Toward a Concept for the 1980's," in Symposium on Minority Youth Employment and Rural Disadvantaged Youth. Institute for Economic Development and Pan American University, 1980.

(51) Parks, Gail A. and Hoke, Gordon, "Federal Education Programs and Rural Development Needs," Paper Presented at the National Seminar on Rural Education, University of Maryland, May 1979.

(52) Phi Delta Kappan Newsfront, "Soviets Far Ahead in Math, Science Training," Phi Delta Kappan, October, 1980, p. 84.

(53) Phillips, Ione, "Area Vo-Tech Centers, An Explosion of Opportunity," VocEd, November - December 1979, pp. 44-47.

(54) Resnick, Harold S. and White, W. Bo, "Developing Work and Education Partnerships: A Case Study," Training and Development Journal, July 1979, pp. 46-49.

(55) Rosenfeld, Stuart, "Beyond Pies and Sties: Vocational Education in the Rural Manner," PTA Today, December 1979 - January 1980, pp. 22-23.

(56) Ross, Peggy J. and Green, Bernal L., Impacts of the Rural Turnaround on Rural Education. ERIC/CRESS, New Mexico State University, March 1979.

(57) Rungeling, Brian, et al., Employment, Income, and Welfare in the Rural South. Praeger, 1977.

(58) Russell, John S., "Let's Get Bullish About Small Business," VocEd, May 1980, pp. 24-27.

(59) Scanlan, Thomas J. and Flexman, Nancy A., "A New Approach to Educating Entrepreneurs," VocEd, May 1980, pp. 28-30.

(60) Scherer. Chris, "Solving Big Problems for Small Business," Extension Review, March - April 1978, pp. 14-15.

(61) Schuyten, Peter J., "High Technology a Vibrant Area of U. S. Economy, New York Times, Wed., August 20, 1980.

(62) Seyler, H. L., "Contemporary Research Emphasis in the United States, in Nonmetropolitan Industrial Growth and Community Change. Lexington Books, 1979.

(63) Sher, Jonathan, "School-Based Community Development Corporations: A New Strategy for Education and Development in Rural America," in Education in Rural America, Westview Press, 1977.

(64) Sher, Jonathan, "Vocational Education in Rural America: Current Problems and Prospects," in The Planning Papers for the Vocational Education Study. National Institute of Education, 1979.

(65) Smith, Eldon D. and Summers, Gene F., How New Manufacturing Industry Affects Rural Areas: A Synthesis. Southern Rural Development Center, Mississippi State University, 1978.

(66) Smith, Lewis H. and Rungeling, Brian, Rural White Poverty in the Mid-South. Center for the Study of Human Resources, University of Texas, 1973.

(67) Southern Growth Policies Board, Human Resources and Public Services for the South. Southern Growth Policies Board, 1974.

(68) Southern Regional Council, Increasing the Options. Task Force on Southern Rural Sociology, University of Wisconsin, 1975.

(69) Summers, Gene F., Nonmetro Industrial Growth: Warts and All. Center of Applied Sociology, University of Wisconsin, 1975.

(70) Summers, Gene F., et al., Industrial Invasion of Nonmetropolitan America. Center of Applied Sociology, University of Wisconsin, 1974.

(71) Till, Thomas, "Industrialization and Poverty in Southern Nonmetro Labor Markets," Growth and Change, January 1974, pp. 18-24.

(72) Till, Thomas and Marshall, Ray, Industrialization and Poverty in Nonmetropolitan Labor Markets. Task Force on Southern Rural Development, 1974.

(73) Tuttle, Francis T. and Wall, James E., Revitalizing Communities Through Industry Services Programs. Critical Issues Series No. 2, American Vocational Association, 1979.

(74) Tweeten, Luther and Brinkman, George L., Micropolitan Development. Iowa State University Press, 1976.

(75) United Nations Industrial Development Organization, Industrialization and Rural Development. United Nations, 1978.

(76) U. S. Bureau of Labor Statistics, Industry and Occupational Outlook for the Southeast, 1974-1985. Regional Report 41, U. S. Department of Labor, January 1978.

(77) Van Cleeve, Roy and Marshall, Ray, "Start-Up Training and Rural Industrial Location," Monthly Labor Review, April 1976.

(78) VocEd "It Works," VocEd, November - December 1979, pp. 22-24.

(79) Waker, James L., Economic Development and Black Employment in the Nonmetropolitan South. Bureau of Business Research, University of Texas, 1977.

(80) Weitzell, E. C., Planning and Rural Industry. PA-894, Extension Service, U. S. Department of Agriculture, 1969.

(81) Whisman, Anne, "Tri-County TEC Does the Job," Appalachia, July - August 1980, pp. 33-40.

(82) Whiting, Larry R., Rural Industrialization: Problems and Potentials. Iowa State University Press, 1974.

rural education: the federal response

NORMAN HEARN

The President announced a rural initiative December 20, 1979, in a report entitled "Small Community and Rural Development Initiative." This report included an executive mandate to define and address the needs of rural America by rallying the resources of all Departments of the Federal Government. Each Department was to submit a plan for an action agenda.

Fortunately, we in the old Office of Education had already been alerted to rural concerns by aggrieved rural constituencies who made their views heard through articulate writers and concerned Congressional offices. Consequently, when the President called for action, we in Elementary and Secondary Education were already in action.

In May 1979, we had conducted a National Seminar to develop a rural education Federal agenda. More than 100 rural school administrators, education association executives, and researchers hammered out 28 recommendations describing how the Federal Government might respond to emerging cry from rural and small schools for relief. These 28 recommendations were taken to ten regional meetings for confirmation by 500 grass-roots participants at the local and State levels.

This deliberative and time-consuming process was chosen because early in the listening process we picked up some sobering counsel as follows:

1. The data associated with alleged "rural inequity are flawed by definition of "rural." The definitions vary from region-to-region, State-to-State, and study-to-study.

2. Some of the problems associated with rural inequities are not necessarily Federally-caused nor are they amenable to a Federal remedy. State policies contribute to much of the rural burden. Furthermore, at

the local level it is difficult to sort out which governmental agency is causing which problem.

3. There is a great fear of more Federal involvement in rural affairs on the part of many vocal rural educators. Some recall that past Federal responses to articulated educational problems have created new and even greater burdens to small and rural areas.

4. Finally, though rural constituents were anguished by their frustrations with cash shortages and perceived unfairness, they were for the most part unable to pinpoint the exact cause of their problems nor to articulate specific remedies.

It would therefore be patently foolhardy to rush to sweeping remedies, even if we suspected what they were. However, almost one year after the President's Initiative, we have identified several clearly basic problems which do lend themselves to solutions by the Federal Government. These are as follows:

1. Rural areas and small schools are deprived of basic communications about Federal programs and opportunities. Their isolation is compounded by their numbers. For example, most States and Federal agencies do not mail notices and applications to small schools.

2. The data on rural inequity are ambiguous in part because the problem varies with the culture. The rural Deep South and Midwest grain belt have obviously different problems and perspectives.

3. Small schools do not have the personnel nor resources to seek Federal (nor State) resources competitively, nor to deal with accounting procedures that follow. (These are usually referred as "red tape.")

4. There is a paucity of solutions for addressing the problems associated with the characteristics of ruralness, i.e., isolation, smallness, sparsity, and differentness (rural culture). A concerted search is needed.

5. Finally, present Federal formula, criteria, and procedures do not mesh with the conditions of rural and small school education. This was best expressed by the NIE-National Rural Center study conclusion that "the structure of Federal aid programs is in several respects not well-matched to the characteristics of rural school systems." The researcher, Tom

> Gjelton, further noted that "it is hard to show there has been any malicious neglect of rural education in this nation." Given these findings and caveats, what can be done at the Federal level to relieve the rural concerns?

The Department was called upon to make an appropriate response to the President's Initiative for the Budget Year 1982. We took the prudent and rational approach. Building on current activities and using as our guidelines the 28 recommendations and the results of several small studies of the Federal role, we proposed a 1982 Initiative for Rural Education referred to as "Rural Network." The Network concept can briefly be described as an information-sharing, capacity-building and technical assistance approach to addressing the special needs of small and rural schools.

This approach does not permanently reject some of the bolder recommendations and suggestions for addressing rural education needs, such as a Rural Education Act, rural set asides, or weighted criteria and formula.

Instead it responds to what appears to be the most obvious and possibility the real genesis of rural education problems.

In broad outlines, the ED has proposed to the Office of Management and Budget at the request of the President the following services for FY 1982 under the code word "Network."

1. A Rural Outreach Service

   This program would fund a rural education outreach office in each State education agency to conduct small and rural school needs assessments, design solutions, develop consortia and linkages, identify resources, and provide technical assistance to help these schools compete more successfully. This might be supplemented by a small grant program for adoption of new practices, technical assistance training or for incentives to attract and keep personnel.

2. Locally-Initiated Rural Research

   This would authorize and fund studies to define and explore solutions to the rural and small schools conditions. The studies would focus on schools with enrollments under 600 pupils.

3. Rural Data Base

   This would fund updating of present and new information services for rural and small schools. We would join the consortium of Federal agencies supporting the National Rural Center and increase funding of the ERIC/CRESS.

4. Extension Service Models

   This would allow agencies or consortia of agencies to design and develop prototype models for the best configuration of tapping and coordinating all available resources and delivering them in an efficient manner to small and rural schools. This might become the educational equivalent to the successful Agricultural Extension Service.

5. Rural Successful Practices

   This program would identify, validate and disseminate these practices on a national basis and tie in with the National Diffusion Network. We can assume that some small and rural schools have dealt successfully with the rural conditions of isolation, sparsity, smallness and differentness that keep rural schools from serving their pupils. There are only five in the National Diffusion Network.

6. Activating the Network

   This effort would address the problem of alienation of rural constituencies from the mainstream of information and policy making. ED would fund a hot-line and newsletter to small schools, special drive-in conferences on rural problems, reactor panels, and other communications to rural constituents concerning rural Federal policy and activities.

So far I have spoken of a possible future programs that may (or may not) survive the competition of national priorities in a time of budget-balancing. Even if these programs do not materialize in 1981, the past year can be said to be the Year-of-the-Rural-Awakening. The President's Initiative is symbolic of a general government-wide conscious-raising about rural issues. All agencies have responded. Some of the responses to this new rural awareness foretell some basic and far-reaching changes in attitudes and subsequent policies toward rural and small schools. Some of the more significant events are as follows:

1. The Office of Elementary and Secondary Education has funded a rural school Network. With this grant:

   - 7,856 small school superintendents were identified.

Their addresses were put on a computerized mailing list at AASA.

- A survey of these superintendents identified 1,600 creative ideas for improving small schools. These will be catalogued, published and disseminated to the Network.

- AASA is compiling the various definitions of rural presently used by the States for future study and possible use for Federal Policy consideration.

2. All ED Program Assistant Secretaries have appointed persons in their immediate offices to be rural "advocates." These people handle constituent and Congressional communications and have caused a greater sensitivity to rural needs and problems within the agency.

3. A significant spinoff of the Rural Seminar in 1979 has been the formation of consortium of persons and organizations in the Washington, D. C. area concerned about rural education. Their acronym, ORCE, stands for Organizations Concerned About Rural Education. This informal group, which includes Hill staffers, association representatives and government personnel, meets monthly to share information about rural activities. They serve as a sounding board for new ideas and prevent the duplication of efforts.

4. All offices in OE have been directed to review their regulations and criteria with a view of eliminating anti-rural biases. In OESE we cooperated with NIE on a small but significant in-house field study to describe the impact of selected program policies on rural and small schools. That study entitled "The Rural Experience With Federal Education Aid," was published September 1980. It will be used to launch a further review and examination of regulations. This activity will be reinforced by the September 19, 1980, passage of P. L. 96-354, the Regulatory Flexibility Act. Effective January 1981, this law requires agencies to consider alternatives as follows:

> ". . . (1) the establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities;
>
> "(2) the clarification, consolidation, or simplification of compliance and reporting

requirements under the rule for such small entities;

"(3) the use of performance rather than design standards; and

"(4) an exemption from coverage of the rule, or any part thereof, for such small entities."

5. This fall NIE sponsored a small working conference to explore the use of advanced technology to serve rural schools. Also, the Office of Vocational Education in October funded a National Conference on "Linking Education and Work." These conference reports should be instructive for future technical assistance efforts.

6. In September this year Paul M. Nachtegal completed a NIE study entitled "Improving Rural Schools," which includes observations and conclusions following field visits to 14 rural school improvement efforts. He makes a plea for accepting the reality of rural America - a precondition to any reform of Federal policy.

This new awareness of the reality of rural schools is slowly but surely permeating the consciousness of Federal policy makers. It will be felt in many small but significant ways. For example, the pending legislation on the Youth Act is being studied to determine the effects of the formula on small schools. As a result of the special desegregation problems of rural LEAs brought to the attention of ESAA program managers, the Deputy Assistant Secretary expressed the possibility of a rural set-aside in the special projects program. The Office of Special Education and Rehabilitation instituted a set-aside for rural handicapped projects earlier this year. In the course of writing the new Asbestos Harzards Act regulations, the unique conditions of small schools were recognized by softening the Compliance standards. The ESEA Title I program has appointed a program officer to provide technical assistance to rural schools.

Other consciousness raising to the rural condition will occur as rural constituents press their cause and as new insights into the rural problem are gained.

But this brings me to the final caveat. A sobering question haunts me even as we talk optimistically about future plans for the rural education. It was asked at a rural meeting last year. It was this: "What happened to the past rural initiatives - the 1974 one, for example"? I would like to believe and I do believe, that this effort will be the one that makes a difference. There is evidence that this will be the case. But I need not remind you that the "squeaky wheel gets the grease."

I personally will do all I can to see that rural small schools are treated fairly. For I agree with the President who said in announcing the rural initiative:

> "Rural Americans have extraordinary creativity, dedication and perseverance - the role of the Federal Government should be to encourage and support the resources and resourcefulness of rural America and be a partner of its local leaders."

ruralism and the future of education in the south

GAIL ARMSTRONG PARKS

I would like to raise some issues and ideas for you to think about which I think are some of the hard ones coming up in education. Yesterday, as Mike Timpane spoke of the intellectual capital of the past which we are now using, I was wondering what is today's intellectual capital for the future? We called the 70's a "me too" or "me first" decade, a narcissistic time. Christopher in "The Culture of Narcissism" made the point that those who have no hope for the future and no interest in shaping it have no interest in the past and learning from it. Do we care about the future? I think so, particularly in the South. That's partly because we stand out as a region of the U. S. which is interested in the past, if often a sentimentalized version of it. Also, I think it is because of the prosperity of the region at this time. We're in a period where many people are hopeful about the entire region.

We are the nation's fastest growing region. The South has been getting rich as a region. Industrial development since 1960 has been remarkable, adding more than 50 percent rural manufacturing jobs. There has also been tremendous growth of the service sector and that transfer payments, particularly in retirement communities, are a very important part of the economic growth. Much of our rural industry is labor intensive and low paying. As a region, we are still lowest on quality of life, average income, education levels and health. Economic development in the South is very uneven. We have whole counties that are pockets of poverty. Sometimes, these are adjacent to high growth counties, sometimes they are isolated counties but we really have these in surprisingly large numbers, given the overall prosperity. Rural minorities in the South, and they are rural blacks (rural Southern blacks are 70 percent of all blacks), suffer more than any other group from the uneven development.

Between 1975 and 1976 the South's population grew faster than any other region of the U. S. In the U. S. as a whole the growth was 4.7 percent, for the South it was 10.4 percent, for the Southern counties that are nonmetro adjacent to urban areas the rate of growth was 9.4

percent, for the South nonmetro and nonadjacent was 7.1 percent. We are a rapidly growing region in all areas.

How do you talk about the future of southern rural education? How does one talk about education for Southern children who will live and work in the 21st century when some of whom, today, are effectively isolated in certain rural settings which have few resources for dealing with the demands of the 20th century? How do we prepare them for a world we can only speculate about? If rural education in the South is to have a future, we must find ways to provide for the kind of development, education and work linkages that do not continue to leave behind Southern rural poor persons and minorities. But the South must do more than this.

If the South is to have a future unmarred by injustice and inequality, it must come to terms with its past. I want to try to take a stab at this past by discussing the future, by asking you to consider the meaning of some contrasts that I think characterize the South, and by inviting you to speculate with me how we might reduce these contrasts, if Southern rural students are to have a chance for an appropriate and equitable education. Let me begin by reading a passage on the South and asking you if you can fill in the last word. This is a passage that describes some of the South's virtues and some of its vices.

> "Proud, brave, honorable by its lights, courteous, personally generous, loyal, swift to act, often too swift, but signally effective, sometimes terrible in action. Such was the South at its best. And such at its best it remains today."
>
> Violence, intolerance, aversion and suspicion toward new ideas and incapacity for analysis, inclination to act from feeling rather than thought; exaggerated individualism and a too narrow concept of social responsibility; attachment to racial values and a tendency to justify cruelty and injustice in the name of those values; sentimentalism and a lack of realism. These have been characteristic vices in the past. Despite changes for the better, they remain as characteristic vices today. In the coming days and probably soon it is likely to have to prove its capacity for adjustment far beyond what has been true in the past. In that time, I shall hope as its loyal son, that its virtues will tower over and conquer its flaws and have the making of a southern world to come. Of the future I shall venture no definite properties. It would be a madman who would venture them in favor of the forces sweeping over the world, in the fateful year of _______."

The Mind of the South, W. J. Cash

Yes, the year was 1940 and I think that tells us something. I suspect to a lesser degree many of those traits still characterize the South in 1980 and that, therein, they provide a key for thinking about how to educate students in the future.

My framework for stating a problem may be characterized by three contrasts.

1. There is a contrast between extraordinary cultural achievement and our own people's lack of knowledge of it. Primarily, we stand out for words and music, for how we can use language like no other region in the country. For example, think of people, national and famous authors who have come out of our region, Robert Penn Warren, William Faulkner, Thomas Wolfe, Richard Wright, Claude McKay, James Dickey, Ben Robertson, Ellen Glasgow, Langston Hughes, Eudora Welty, Flannery O'Connor, and you can go on and on. Because I want to focus on what may be inherent in that asthetic tradition and what it might have to say about education, indulge me by listening to some of the words of some of these people. I will start with something that is very simple.

> "The judge says, 'Well sir, I want to know why it is that you look like an honest man and persist in pursuing this elicit whiskey business. I want to know whether after the leniency shown you by this court, you expect to come back here anymore.'
>
> The defendant says, 'Well, by gosh judge, I didn't come here this time.'
>
> And the judge says, 'Well, then how did you get here?'
>
> 'They brought me judge. Yes sir, judge, they brought me. I didn't come here, judge. I never will come here and you needn't be uneasy about that.'"

Some descriptions that have been written of southern countryside by rural and a few urban Southern writers:

> "Until I was 13 and left Arkansas for good, the store was my favorite place to be. Alone and empty in the mornings, it looked like an unopened present from a stranger. Opening the front door and pulling the ribbons of the unexpected gift. The light would come in softly, easing itself over the shelves of mackerel, salmon, tobacco and thread. It fell on the long vat of lard and by noontime during the summer the grease has softened

to a thick soup. Whenever I walked into the store in the afternoon, I would sense it was tired. I alone could hear the slow pulse of its job half done. But just before bedtime after many people had walked in and out, had argued about their bills and joked about their neighbors, or just dropped in to give Sister Henderson a "hi y'all," the promise of magic mornings returned to the store and spread itself over the family and watched life waiting."

"Like other Southerners I have known from the start that the way is long, that we live and leave what record we count of our hopes, of the cry in our hearts. We plow the water and it is the spirit alone that is ever free, that is only memory, that has no time. How often do we picture the way ahead and dream of it and plan."

"Like other Southerners, I have known from the start that there would be no new Texas for us, no California. I have always known that the procession we march in has already arrived in the promised land. It is here for us, not there. In the South I have known that from our time on we would be obliged to find what it is we look for within ourselves. It is not to be found in change of scene or in pulling up stakes. It is ourselves now that we must settle."

"It is the state that we must take hold of, we must enrich oil fields and stop erosion. It is in the state that we can find the riches, the perfect security and the peace. We cannot turn our backs, we cannot pick up and leave any longer. We are old and we must do what all who are old must do. There is the responsibility to assume and the duty. No one can be young always. Who would wish to be? Texas is Carolina now and California is Texas. And we can fly to them all in a night."

"And in the square Macon was an old town but it was a tired old town when I first knew it. In rainy weather the streets turned to red slop. Grass grew on sidewalks and the courthouse sagged in the square. Somehow it was hotter then. A black dog suffered on a summer day. Boney mules hitched to hoover carts flicked flies in the sultry shade of the live oaks on

> the square. Men's stiff collars wilted by 9 in the morning. Ladies bathed before noon and after their 3 o'clock naps and by nightfall were like soft tea cakes with frosting of sweat and sweet talcum."

There are words and words and words, a gift in this part of the world. There is also something that may not be woven into our curriculum, pointed out to our students which embraces the whole region. If you think about American music, what American music do we have? Basically, it comes from two traditions, New Orleans and Nashville, blues and jazz and country music, out of the South. You hear American music anywhere you go in the world.

2. To move from some of the positive things, there is a contrast to which I have already referred between the tremendous economic growth and some remaining instances of third world conditions with particular reference to education. We have a serious problem when school districts do not have enough textbooks to go around. Whereby in February or March the school system runs out of money; rural schools without credit or without resources to make up the difference to pay the teachers' salary. If you were to take one Southern state as an example, and it's a fairly rich one and is growing rapidly, to look at the growth patterns in that state, you would notice that the poor areas are predominantly altogether rural counties. And if you look further to the population of the counties, you would find 50 percent or more minority. Concentrated hardcore poverty still abides in the midst of the experience, growth and development we have seen. I will talk later about a connection that may be between the kind of development we have had and the remaining poverty that endures. Our problem is that we have to understand our own position and our own history before we can come to terms with the discrepancies here.

3. Then there is the contrast having to do with time. We are only 20 years from the 21st century, but too often many of us still cling to the images and thought patterns of the 19th century. This may be understandable in the past because the region was isolated for so long except for the international cotton market. But we are a global society today and our policies have to reflect that fact, reflect it in a way that does not go on discriminating rural people in a number of state policies as well as national. We have a task of enabling children who may still be using privies and drinking spring water to cope with the demands of a world that has an international orientation. The world we are living in at this point. This conflict points to the importance of looking at the fallibility of human nature and the fact that people are imperfect and technology never solves all of our problems. Machines never solve all our problems. We must keep in mind the human element. The conflict is, if you acknowledge that you still have the problem of moving ahead into the future, how do you try to bring about that kind of blend that preserves the best of the past.

One other prediction is very dire. I asked all of the speakers to look ten years ahead into the crystal ball and say what is the South going to be like. A couple of them said that they think the South will lose many of our own virtues and pick up many vices but not virtues of the other regions. Well, I said that's a horrible prediction. What are we going to do about it? I think there are certainly lots of ways around that. I think consciousness about it is one of the things we need to do. Does it mean if we move toward an international global orientation that we reject local culture, different regional culture? I don't think so. I think that in implementation the local differences and strengths, like words, music, our humor and our tradition, can be used as vehicles in learning. It is a tool for putting people in touch with their culture and heritage in a positive way. We need these educational approaches in the rural South.

But we need something else. We need also science and technology, not a mindless grasping of technology and the wholesale implementation of things we don't understand. We need some experimentation, some demonstrations with small technologies, microcomputers, two-way television cable link ups, this sort of thing. Many small schools simply cannot provide the array of federally mandated programs unless they look at some forms of technology. One of the South's weaknesses is and has always been the tendency to reject analysis. We cannot, we must have analysis. We must be just as good in logic, math, and science. Children have to have that.

I want to share with you a fear I have about industrialization. We have looked at development in the South. It is very labor-intensive, non-union, much of it low paying and some counties are already being left out. Industrialization, as I understand it, is a theory of recapitalizing capitalism. In other words, people are arguing, people are writing in the Wall Street Journal and Business Week that as a nation we have failed to put sufficient resources into our capital resources, our industrial base and our technological base, and we must change our social policies to do that. Well, somebody said, "You can't have your grits and eat them." If you do that, that means cutting back social services. And this is what advocates of reindustrialization are arguing, "You can't have everything unless you make sacrifices." What people who say those things never follow up with is who will make the sacrifices if this happens? They speak of a nation as though it is a body and it means you can just do without a finger in order to get something. It really doesn't work that way. Some people benefit and others lose. It is argued that for the long-term this is the kind of thing society has to do. I think it is something the South has to look at when you think of the way industries have been encouraged to come in and the kind of development we have to do. We have some things to worry about, including environmental conditions.

The last thing I am going to say about education, which basically has made our rural schools suffer so much in the South and other parts of the country, is that people decided the problem was that they were rural and the way to get rid of the problem was to make them not rural, to take a one best system approach designed for large schools in large cities and apply it in rural settings. I have never been convinced it was good for urban students either. I think urban students have some of the same problems rural students do. Probably the group for which education works best in America is suburbia. But for the inner city and rural areas, we have real problems with that one best system approach. Our test in the 80s should be to experiment with some new models, new approaches.

One idea, we might experiment with, is to build a curriculum around local resources, develop a curriculum out of the particular characteristics and heritage very much like the Foxfire projects do. But do not stop with that. We must recognize that rural economics are different from urban economics, that rural societies are different from urban societies, and that our rural students don't know anything about that. You could teach social science methodology well. You could teach literary appreciation and music appreciation well if you look at what is native to the region and made this the focus of schools.

We need a lot of experimentation with education and work linkages. What's the best way to get a job as a welder in a rural community? Or what's the best way to get a job as a small appliance repair person? Start your own business, right? So we need to be focusing on entrepreneurship, teaching these skills. There are far more job opportunities in many rural places for small entrepreneurial operations than large factory jobs. Why aren't we teaching kids this view? Giving them the know how and showing them how to do economic needs analysis, so they can be a part of building the growth of their own communities. We need to monitor and look at those linkages and also some things such as contracts, vocational education and school based development enterprises to figure out and to help them learn what are some other forms to be thinking about.

In the South we need to ask the Education Department to set aside money for demonstration for desegregation and race relations. Desegregation money has been cut back, as many of you know. There seems to be a tendency to assume you don't need money in race relations programs, but all of us know you do. This is very much needed.

Finally, I would like to see some rural schools doing some demonstrations with alternatives to small technologies and expanding their curriculum in this way and linking up with other school systems and perhaps the whole state and sharing resources in a better way.

Let me remind you what a Southerner who was concerned about the disparate poverty and the lack of education in the South said back in 1935, "In every child who is born under no matter what circumstances and of no matter what parents, the potentiality of a human race is born again. And in him too, our terrific responsibility towards human life, towards the upmost idea of goodness, of the horror of error, and of God."

ruralism and the future of education in the south

WILLIAM W. LINDER

Problems of Promise

Sinclair Lewis, one of our great writers, was once interviewed by an Italian editor. "Mr. Lewis, I have read your many books, like -

- Babbitt, which had to do with the struggles and frustrations of the American businessman in a competitive society.
- Elmer Gantry - an exposure of the insincerity of some ministers.
- Arrowsmith - dealing with the inconsistency of some physicians.
- Main Street - which discusses the problems of little people in little towns.

"Mr. Lewis, I would like to ask you, do you have a solution to these problems?"

"No, I do not have a solution to these problems and furthermore, I do not care."

The Italian editor wrote his report. "Mr. Lewis is a great writer, but he is not a great man. A great man not only knows the problems but he cares." You obviously care or you wouldn't be here.

What hit home with me was how very much like the Italian editor we are as we ask each other, "Do you have a solution to these problems?" We know the problems well, but the truth is that we have few solutions. Unlike Sinclair Lewis, however, we do care and we hold on to the hope that answers will come. As someone told me years ago, "Hope is a strong medicine and should be administered freely."

Last week my secretary came to the office telling about her nine-year-old son Nathan, who likes to spend his time reading the Guinness Book of World Records. So Nathan, who knows such astounding bits of information as the record number of worms ever consumed by a single person in 60 seconds, goes to school to hear his teacher tell that the Empire State Building in New York is the tallest building in the world. Very respectfully Nathan raises his hand and almost apologetically says, "No ma'm, not anymore. The new Sears Building in Chicago is the tallest." The next day he brought the book as proof. For an entire lifetime - and the lifetime of that teacher - the Empire State Building has been the world's tallest building. But somewhere along the way it changed and we never even noticed. It's a little like watching our children grow up. . .it happens so slowly that we're not aware of it until one day they are two inches taller than we are. Powerful forces of change are at work in our lives today, and they have come about on such a day-to-day basis that we may not be recognizing them. What are they? How do they affect education? What are they doing to our lives? How long until we look up and find they are bigger than we are?

Population Growth

One of the most significant long-run forces impacting our lives is population growth - whether you look at it on a worldwide scale or on a regional scale. To get some perspective of what we are talking about, consider that from the dawn of history up to 1850 we accumulated a total population on the face of the earth of one billion people. It took only 80 years to add another billion, so by 1961 we had a total world population of three billion. Then it took only 15 years to add a fourth billion. Our current world population is four and a quarter billion, and the latest projections have us at 6.3 billion by the turn of the century. In other words, we'll be adding two billion more people to the world's population in the next 20 years.

With that many people, the demand for our resources is doubling and tripling - more food, more gas and oil, more everything. Inflation is caused by a scarcity of resources and by a situation in which the supply cannot be increased as fast as the demand. A straightforward example is the rise of gold. There is only a finite amount of gold that has been mined and is available. If more and more people in more and more countries lose confidence in their paper currency and buy gold, the price goes up. The same happens with fossil fuel energy and in 20 years you'll see it happening more and more with food and fiber. My feeling is that we are going to be facing long-term monetary inflation and yet at the same time we'll be pressured to hold the line on revenue increases - don't raise taxes. We are going to see a drastic cut in our purchasing power and yet education - both rural and urban - will be serving Americans with very sophisticated ideas about what they think education should provide them. . . what they are entitled to. We're looking at a clientele who understandably wants air-conditioned classrooms, better pay for teachers, clean halls and the grass cut once a week. At the same time they are the very people who were caught up in Proposition 13 crying for government to put the cap on the revenue bottle. Our school boards are part of local government and part of this giant taxing machine the public sees. While we have thought that this brief romance with Proposition 13 meant a cry for cutting taxes, I think it more appropriately was a message from America saying, "We believe that you can, by managing your affairs better, give us the same service or better without getting more money."

Urbanization

Another significant force of change in our lives is urbanization. The South has gone from 70 percent rural to 70 percent urban. I was in DeSoto County, Mississippi, recently and was astonished by the number of subdivisions and housing developments that had literally taken over what not very long ago was a rural county of dairy farmers. At some point in the last 20 years, Memphis residents discovered they could live in rural Mississippi and work in Tennessee, so they came to the country for the good life. As a result, there's not much country left in DeSoto County. This is a part of that total picture that you may have heard others refer to as "population turnaround." Basically it means that many of those who left the rural areas 20 years ago for the city are coming back home today. But I'd like to look at it a little more in depth.

The South, like the rest of the nation, went through a period of a mass exodus to the cities and then we found ourselves in an urban crisis. The nature of our schools changed and we began to see classroom problems we had never known before. . .drugs, pregnancies, students with weapons, teachers intimidated by their students, law suits, hostility . . .and so on and on. There is very clear research from a variety of studies that if you put too many people in too small a space over too long a period of time, there are chemical changes that occur in the body and alter behavior. Let me just cite one example that I think will typify the findings. Back in the early 1960's Dr. John B. Calhoun of the National Institute of Health did a study in which he established a bounded area or pen of one-quarter acre. Into this pen he placed 30 wild Norway rats. They were free to behave in any way they wished except they couldn't leave the pen. The food supply was adjusted upward as the population built. Calhoun found that there were no discernible changes in any dimension within the pen such as mortality, morbidity or behavior until the animal population crossed the 150 mark. Then significant changes occurred almost immediately.

First, the death rate rose significantly. The animals did not starve to death - the food supply was adequate. They were not killed by predatory animals which couldn't get into the pen. There was no sign of any specific disease or epidemic. It was not until autopsies were conducted on the bodies that it was determined they had died from major physical manifestations of an increase in heart rate, blood pressure and so on. Under conditions of stress, there is no opportunity for the body to throw off excessive production of chemicals. The result is the exhaustion of the pituitary adrenal axis and also serious organ damage. So the death rate went up.

Another development at population levels above 150 was a very noticeable shift in mating patterns. At lower population levels, the animals engaged in typical mating with courting behavior as a preamble. When the population rose, they lost interest. Again at population levels above 150 where there was mating with litters resulting, an almost universal abandonment of the young occurred - the so-called maternal instinct failed. The mother rats would simply drop the litter and walk away, leaving the young to fend for themselves. Most, of course, did not survive. Another result of the increase in population was a marked increase in cannibalism. Keep in mind this was not in response to a need for food because the food supply was adequate and increased as the population built. Dr. Calvin said this apparently was related to the hostility and aggression that developed as density increased. In a dense population, every activity an animal engaged in was interrupted or interfered with by other animals. More and more the animals were biting and slashing in an effort to reduce contact or establish territorial turf. Then they were often carried away in the orgy of battle, cannibalizing the victim, or, on occasion, being unexpectedly cannibalized.

Another major change was a significant shift in sexual patterns. Increasingly the animals engaged in homosexual behavior which is not normal for the Norway rat under different spatial conditions. Finally, at higher population levels, certain of the animals broke off all contact with other animals. They removed themselves to the edge of the enclosure and in no way would relate or interact with any other animals. They spent all their waking hours concerned with their appearance, licking their fur, grooming themselves. They appeared to be the healthiest, happiest animals in the pen, but there was strong evidence that they were the sickest. Their withdrawal was virtually autistic.

The net effect of all this was that over a 36-month period, the animal population stabilized at about 150 rats, whereas under different spatial conditions during the same period of time the population in theory could have risen to 5,000. Dr. Calvin speculates that this is perhaps nature's way of taking care of over-population. As the population builds, certain pathologies develop that have the effect of stabilizing or reducing the population. As soon as the population through pathology falls below 150, those patterns diminish. Then as the population returns to mating and builds again, the pathology sets in again.

Now if you take a look at the patterns we are experiencing in our society, especially in our more densely populated urban centers, you will be overwhelmed by the number of parallels. The Surgeon General's statistics indicate that death rates are higher in urban centers than they are in rural areas and that causes of death are identical with the research reported in the animal studies. People who work in social welfare agencies will tell you of rising incidences of abandonment of children. We don't have to turn on each other, biting and slashing, in an effort to reduce contact. We're more sophisticated - we can use a gun. A few weeks ago the Mississippi State football team traveled to Miami and learned firsthand about the increase in crime since the recent influx of refugees swelled the population on the Florida coastline. One of our alumni was knocked unconscious and injured when he was mugged in the restroom of the stadium and the wife of one of our coaches had her purse stolen as she walked through the crowd. Aggression. . . hostility. . .we see it on the streets and in the classrooms almost every day.

As a result, we find families moving back to the rural areas for that "quality of life" they are not experiencing in the cities. But the problem is that they want that same kind of highly developed educational system they learned to expect in the cities. . .language laboratories. . .remedial reading centers. They have come to the rural areas and brought their children but the rural school has neither the resources nor the facilities to cope with this sudden turnaround.

Changing Value System

The teacher in the classroom may be more aware than anyone else of the temendous affect on our lives of what I will call a changing value system in America. Our educational system has been formed through the years by men and women with a value system that has come to be called "the Puritan ethic." In this value system is a work ethic that says, "Know your place. Obey legitimate authority. Defer your gratifications. Save for the rainy day. You earn your leisure through hard work. The biblical six days you labor and on the seventh day you rest." The work ethic says that leisure is the reward for working. There is very clear evidence, however, that many of our citizens have a different view of life. They have replaced the Puritan ethic with what has come to be called "the psychology of entitlement." This says in effect that as a human being, as an American citizen, I am entitled to good health care, a job, protection against unemployment. The psychology of entitlement says that people have the right to a good education - education is no longer a privilege in America but a right. The psychology of entitlement says that people have the right to reasonably pure air to breathe and safe water to drink and safe consumer products. This new way of thinking says that leisure is not something that comes out of work; it is a right to work. This new breed of person tends to be less child oriented and more interested in self-fulfillment. The General Mills Corporation Consumer Center, which has been conducting research on the values of the American family, says this new breed comprises 43 percent of our population. What this says to education is that we have a clientele that thinks they are entitled to a good education and they'll sue us if they don't think they are getting it.

A recently published study by the MIT-Harvard Joint Center for Urban Studies predicts that by the year 2000 - in 20 years - fewer than one-third of the nation's households will consist of "conventional families" of Mom, Dad, and the kids. Single-parent and other "nontraditional" types of households will be much more common as more women enter the labor force. Sixty million households will have no children under the age of 15 - that's almost as many as the total number of households that existed in 1970. The number of one-worker husband and wife households will fall from 43 percent today to 14 percent by 1990. That means that in 86 percent of the homes, both Mom and Dad will work. The authors of the study note that children of the next generation whose parents are likely to be single or both working will need more "nonparental" child care - perhaps more years in school, longer school hours or more care after school at home. What effect will this have on education?

Explosion of Knowledge and Information

There is still another force at work in our lives. Some time back the Harvard Business Review published an article quoting a man named Mitchell Reed who observed that it took us from the birth of Christ to the year 1750 to accomplish the first doubling of mankind's knowledge and information; the second doubling came between 1750 and 1900, only a period of 150 years; the third doubling came between 1900 and 1950, only 50 years; the fourth doubling, only ten years; the fifth doubling, only eight years; the sixth doubling, only five years. The most recent doubling apparently came between 1973 and 1977 - a period of only four years. What I am saying is that we are in the midst of an explosion of knowledge and information. Ninety percent of the scientists who have ever lived are alive today and they can take advantage of the calculating capability of the computer which can do in seconds or fractions of a second calculations which would have taken earlier scientists a lifetime to perform. That teacher who didn't know that the Empire State Building is no longer the tallest in the world will soon - if not already - find herself adrift on the sea of new knowledge if she is not encouraged and required to keep pace through continuing education.

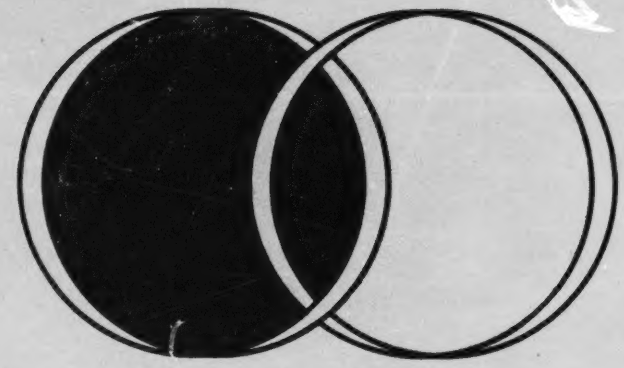
Changing Age Patterns

The last force of change that I would like to isolate as having a tremendous impact on society and on education is a change in age patterns within the United States. In the last 50 years the United States has experienced three dramatic shifts in the rate at which we are reproducing ourselves. We began with very low birth rates during the depression years. . .then the World War II baby boom explosion began in 1946 and extended to 1962. In 1962, the birth rate started down and has been going down steadily, plateauing at very low levels. In 1976, however, we did experience a turnaround, and birth rates appear to be going up once again. The extent of this turnaround is not evident yet. In the meantime, though, we have the tail end of the baby boom moving through our schools now. In four or five years they will be assimilated into the work force and school enrollments will drop - which undoubtedly means funding levels based on daily attendance will drop. While we won't be serving as many students and that will alleviate some stresses, we also may face a cutback in special programs as a result of loss of funds and a cut in purchasing power caused by inflation. Right now we don't know if the turnaround in birth rates in 1976 will result in a second baby boom or even a mini-baby boom, but if we continue to have low birth rates, we might see half of our population in 20 years over the age of 50 and a third over the age of 65.

I saw a recent UPI newspaper article pointing out that medical science has been so effective in increasing our lifespans that by the year 2000 the average lifespan will be 82.4 years. With an aging population and a longer lifespan for its citizens, America might face a crisis in terms of its retirement programs and its social security system. This will probably be true for education, too. But there is another implication here. With life expectancy increasing, the probability is very high that 70 will be removed as the figure for mandatory retirement. California already has totally eliminated mandatory retirement for state employment. We may see a situation where most employees will be protected by law against termination unless you can demonstrate that they are physically and mentally no longer able to work. In the 60's and 70's we saw more and more law suits based on sex and race discrimination. In the next 20 years we may see more and more law suits based on age discrimination. This means that we will have to make better personnel decisions at the beginning before we are stuck with them at the end.

Conclusion

As we look at these forces of change that are impacting our lives, we basically see a population requiring more educational services and yet hollering, "Put the cap on the revenue bottle." At the same time we are afraid to become too dependent on aid from the federal government - who giveth and taketh away. So I come to a point of emphasizing management - managing what we already have. When Motorola sold out Quasar to Matsushita, the Motorola plant in Chicago improved quality significantly and yet they used the same workers in exactly the same plant with exactly the same equipment. The difference was management. How is it that a football team can be the floor mat of the district one year and then change coaches and come back like a roaring tiger? The difference is management. As we face the next 20 years, the answer may not be in new and different programs but in taking what we have had all along the way and simply making it work for perhaps the first time. It may well be that this is the calling of the 80's in many areas, not just education. The 1980's may truly be the decade that America did more with less.



designing regional data bases of social/educational indicators

designing regional data bases of social/educational indicators

FRANK J. MUNGER

Jim Morrison and I are reporting upon a piece of work that we did by contract this past summer with the Southeastern Regional Council for Educational Improvement. The task that was assigned to us was the development of a design which was referred to as a data base of educational indicators for use in policy analysis.

In the design of the system that we will be briefly outlining to you, we sought to follow a series of principles that seemed to us to be basic in the most effective utilization of this kind of data base. The five principles that we sought to operationalize in what we did were as follows. First, that the indicators utilized within the system should be policy relevant. The primary focus of a data base of educational indicators for use in policy analysis, to give that quoted phrase again, should, it seemed to us logically, be upon choices with which policy makers must deal. In this respect, such a data base differs from a data base for use in research as such. Much research necessarily concerns relationships that are not within the control of policy makers. Indicators of such relationships are relevant to policy making only insofar as they establish the givens of a situation - the constraints within which policy alternatives truly exist. Such indicators necessarily must be included in the system when they measure conditions which may force remedial policy responses. As for example, population growth is largely beyond the control of educational policy makers, but must be measured to project changing facility needs. The primary focus is upon the development of policy relevant educational indicators in the identification of a parasimonious set of measures of conditions which are subject to manipulation through policy decisions and which can be utilized, therefore, in making choices among educational policy alternatives.

The second principle we sought to follow was that indicators must be intelligible to policy makers. We emphasize the selection of a small set of indicators rather than a large number of indicators because the indicators, if they are to be used, must be useful to decision makers who cannot spend large amounts of time in reviewing multiple, perhaps contradictory, measures of the educational conditions with which they are dealing. The indicators reported, therefore, should be few in number and, while they may be complex in calculation, should be expressed with a minimum of jargon. Such economic measures as gross national product and cost of living index provide prototypes. Although the measurement is complex, derived in sophisticated fashion from multiple sources, in presentation both of these represent simple, common, sensible, understandable concepts.

Third, wherever possible, indicators should be derived from existing data sources. There are three reasons that we would give for this. In the first place, such a procedure is cost-effective. Although data analysts often forget it, data gathering is expensive. They particularly forget it when they are asking someone else to collect the data for them. For this reason, it is cost-effective to use, wherever possible, existing data sources. Secondly however novel, data sources always introduce errors until the procedures are standardized and widely understood by those who must supply the data. For this reason, the use of existing data sources will always be more error free. There's a third reason as well. If indicators can be defined and/or derived from existing data collections, it is possible to make retrospective measures of the past events which permit both straight line extrapolation as well as more complex time series analyses and trend fittings. At minimum, without previous data points, it is impossible to be certain that a current measurement reflects any change from past experience. Fourth, wherever possible, indicators should be located within collected models of educational events. Some indicators in a single perspective are useful as observations, simply because they warn us that something is going on. Wherever possible, however, we believe that the measurement of indicators should be placed within models of interconnected events. Industrial growth thus creates population migration which then, in turn, generates school enrollment while, at the same time, changing vocational needs and, at the same time, altering the availability of teachers, as well as at the same time, altering racial and social class balances in the student population. Each of these relationships represent another causal sequence interconnecting two variables. It's obviously a hopelessly ambitious objective in some ways to seek to measure the critical interconnections of the entire educational system so that through a series of transformations within the model, we can predict all future demands and all future needs. But we believe that our goal should be to always seek to find these interconnections between educational indicators within the system.

Fifth and finally, wherever possible, indicators should be sensitive to the possibility of unexpected changes in the system. Having expressed in the fourth principle the notion of model building, the desire to create interconnected sets of variables, we note also the need to consider the possibility of model breaking, or at least model re-evaluation. The argument may seem paradoxical, but it is essential.

It is also the principle most difficult to operationalize in practice. The most serious deficiency of policy indicator systems developed in the past has always been an essentially static nature. Based upon past data, they always assume the future will be a projection of the past. They assume therefore, falsely, that the future cannot be different from the past and is bound inexorably from the past. Mathematicians have developed theories to cover the situation in which stable relationships between variables suddenly shift or actually reverse; they call it catastrophe theory. Social scientists are more familiar with the notion of a threshold value beyond which relationships suddenly begin to change. Such values are, in fact, commonplace in educational policy making, as in the form of a tipping point in elementary-secondary school education, or a critical mass of black students in an institution of higher education which is necessary to provide a secure base for retention of the students within the system. Similar principles must be incorporated with any effective policy making model. Failure to allow for abrupt shifts in relationships within models has contributed to the belief that they are unrelated to reality and have little value in long-range futures planning.

To state the sequence in a more general way, futures research using educational indicators is, in substance, nothing more than the projection of likely future events. In this sense, it represents an element that has always been present in educational planning. It is distinctive, however, in the conscious attention given to the two classes of future actions. Those that may alter probabilities, and those that we ourselves have some degree of control over that represent the choice points in the system where decision makers may intervene. Futures research is finally distinctive also from past practice in its willingness to conceive of the unusual, even the outlandish, in terms of new developments or the possibility of the reversal of past relationships.

I've already indicated my desire to speak briefly here, so let me go ahead now to one last stage of the presentation of the data base as we have outlined it. This represents an attempt to inventory the types of data that are available that we felt were useful for the kinds of purposes that we are talking about and to describe the three sets of data that we have in mind.

Our first stage in this process was to look at the question of what data is available, applicable, of course, to the state with which we are concerned and, likewise, authoritative in its character, so it would be trustworthy for the purpose of decision making. We then sought to identify those classes of data that would provide answers to certain given types of questions and came to the conclusion that the data system should consist fundamentally of these three types of indicator systems.

The first of these is described here as a state educational indicator system and is based upon the conceptualization of the central object within the data base as the state system of education. In this sense, the system is seen as containing a series of inputs which are measurable: the school enrollments (the number of children who are to be dealt with in the system); the performance demands that are made by the relevant constituency, the clientele group of the schools; the demands for the kinds of things that should be done; and finally, the inputs into the system in terms of the resources that are available. Each of these can be traced back in a more complex network of relationships. As I suggested before, one thing leads to another within the system, but all have in common that they represent the inputs into the state educational system. Then in turn, the educational system itself is the place where the process of conscious policy making is going on. Here the range of alternatives that can be conceived of and can be measured in terms of the policies that are, in fact, adopted and in use in various state educational systems represent the choices that policy makers wish to have evaluated. So they can, in turn, see what the measurable effect is in terms of the outputs of the system. These outputs are again measurable, of course, within the system, in terms of the number of individuals who are educated, the skills they are taught, the achievement levels that they achieved, achievement measured both in academic terms and the quality of life indicators. Then finally, the last stage in the system described here, the feedback process by which the achievement that is measurable in terms of the students educated by the educational system itself, is translated into a change in resources, a change in performance demands within the system.

What we are suggesting is that the potential use of such an indicator system are: first, for the purposes of regional policy making, to examine what the impact of changes in federal policy seen as an input into the state system will be; secondly, for the examination of state educational systems in terms of interstate comparisons in the process of state system model-building, the possibility of measuring, therefore, what the impact of conceived policy choices will be. The potential users for the system are seen as regional and state educational policy makers.

The second system of indicator data that we have conceived of including within the proposal that we have submitted represents a similar conceptualization but now focuses upon a different level of detail. Now, the system that is examined and for which indicators are provided is the school district. At this level, we are talking about the inputs that represent the demands made upon the school district, the resources available to it. The range of choices available is a very different one; it is alternatives for school district decision making that are constrained by federal and state policies. But again, the process becomes the same, measuring what the variations are that are available in policy alternatives, then what the outputs of the system can be conceived of in terms of academic products. I have been addressing the question of what kinds of information we would like to have. Obviously, any of you who are familiar in any way with federal and state sources of information of this kind will recognize that the level of detail poses substantial problems in obtaining reliable information of this kind. The potential uses of such a school district data base represent, again, intra-state comparisons and, in this case, district system model-building. So potentially, the users of such a data base are both state and school district policy makers.

Third and finally, the last of the indicator systems that we have conceived of is one that is focused upon a different level of detail. It is no longer a systems model, but is now based upon individual learning achievement and represents those measures which are available in which the unit, which is central to the system measured, is the individual student. The individual student seen, in the first place, within a context of parent/child relationships, peer/group interrelationships, student/teacher interaction (which are now visualizable as the input from the school district itself) and the mass media influences. Then, what is measurable, in terms of academic achievement, of technical skills and of life adjustment skills as well. Finally, these can be conceived of as the micromeasures of the system output of the school district as a whole because we fundamentally measure by aggregating from this level what it is that our school districts are accomplishing.

Again, a data availability question rises at this point. Ideally, if you were a school district decision maker, you would like to have this kind of information on specifically the students within your own system. That is obviously unattainable. In fact, most of the data bases that are available for measuring these kinds of relationships are not available at a level of detail and specificity below the regional level. What we have proposed therefore, is the creation of an individual learning achievement indicator system of data for the region of the South. The purpose being multiple in character, but most fundamentally, to focus research by individuals interested in the South and in what remains still the unique characteristics of learning within this area upon which is specific to the region itself. Our potential users are seen as individuals interested in policy analysis from regional data who wish to estimate the transformations that occur between one relationship in another regional model from regionally specific data. And finally, we see it as a regional data base to encourage academic research within the Southeast focused upon the region itself by making more readily available the data of this kind. The potential users are seen therefore as state and school district policy staff, Regional Council researchers either within the Regional Council staff, or by contract with it in the general southeastern region educational research community.

This is a very brief description of what we have tried to propose in terms of a data base, but it does lead logically to the major question that remains. That is, with such data as this, what is possible that does take us beyond the limits of simply looking at the future in terms of looking at a straight line projection of the past. It is this topic that my colleague, Professor Morrison, will discuss here, as he discusses

policy-impact analysis: implications for use with regional data bases of social/educational indicators

JAMES L. MORRISON

Professor Munger described those considerations which should be used in designing regional data bases of social/educational indicators. My intent is to describe, albeit briefly, several futures research techniques which could use this data within the framework of the policy-impact analysis model, a model developed to specifically tie these methodologies to policy development, implementation, and evaluation.[1] The utility of the model is that it structures communication between those developing information about the future and those responsible for policy formulation and decision-making in such a fashion that policy-makers can choose among alternative policies based upon the probable impact of each.

Policy-Impact Analysis Model

There are four stages in the policy-impact analysis model: monitoring, forecasting, goal setting, and policy analysis and implementation. Monitoring refers to the identification and selection of issues of concern to policy makers. For example, if high school dropout rates appear to be increasing or teacher competency scores appear to be declining, school officials may choose to focus on these issues as appropriate for study and possible action. The second stage of this model, forecasting, involves using a variety of futures research techniques to forecast the probable future for those issues, now specified as indicators, (or variables), e.g., dropout rates or teacher competency scores. In response to the projected trends of indicators in these areas, policy makers establish goals, the third state of the model. For example, using the futures research techniques described below, it is projected that high school dropout rates will increase and that teacher competency will decrease. Chief state school officers, upon receiving this information, may then act to establish goals for reducing dropout rates and increasing teacher competency. This leads to the fourth stage of the model, i.e., the analysis and implementation of policies to achieve those ends. In this stage, a variety of possible policies are analyzed in order to determine their probable impact, and are ranked on those characteristics deemed important, e.g., relative costs versus benefits. Those policies ranked at the top are then implemented. Evaluation occurs when the stages of the model are repeated using additional analyses and further refinements. I will now describe this model in more detail and will illustrate its use, given a well designed data base of social/educational indicators.

Stage I: Monitoring

Monitoring consists of first identifying areas for study: then, in conjunction with decision-makers, selecting appropriate indicators of those issues of concern, and finally, using the data base of educational/social indicators, developing and plotting historical data measuring those indicators. There are constraints in this process. Primary among these is the availability of an adequate data base which enables the research staff to measure indicators over time. This means that in order for the staff to illustrate trends from this data in five year time increments, data must be available for the last 10-15 years. For example, if the staff wishes to forecast the trend of student dropouts for the next five years, dropout data over the past 10-15 years must be available. Furthermore, the staff must ascertain that this data is of acceptable reliability and accuracy.

State II: Forecasting

There are a variety of forecasting methods, ranging from "implicit" forecasts of the trends discussed in stage one, to "explicit" forecasting involving mathematical trend extrapolation, judgmental trend extrapolation, and probabilistic extrapolation.[2]

Implicit forecasting is the oldest forecasting technique, and simply involves viewing the historical data to ascertain the trend (e.g., dropout rates in high school since World War II using five year increments). This method of forecasting assumes that those forces shaping recent developments of the trend, irrespective of what they are and how they operate, will continue to affect the trend in the same fashion in the future. Although this assumption is often valid, particularly for those trends which have a long and stable history, and which may not be subject to sudden changes, we know that in many instances this assumption does not hold, particularly in our rapidly changing, complex society.

Explicit forecasting refers to trend extrapolation, i.e., an extension of the recent course of developments with respect to a particular trend. There are two basic techniques in this method, mathematical and judgmental. Mathematical methods range from algebraic equations developed through regression analyses to more complex systems models.

Such methods enable one to mathematically develop a "fit" with historical data and then extrapolate the trend line into the future to generate the forecast.

The judgmental method of explicit forecasting uses expert forecasting and/or the delphi technique. Expert forecasting is accomplished by requesting experts in the field to forecast a trend based upon the data base and upon their best estimates of changes in the likely future. The delphi technique is a method whereby the combined forecasts of a group of experts are used in an attempt to describe the future relevant to that trend. This combined forecast is then presented to the same or another group of experts for refinement and additional considerations.[3]

A major assumption of both implicit and explicit forecasting methods is that those forces which have shaped the historical development of a trend will continue to guide developments of this trend in the future. These methods tend to ignore "surprise" developments which will affect the trend.

Probabilistic forecasting, on the other hand, combines mathematical and judgmental methods, and includes "surprise" events which might occur in the future and, therefore, affect the trend. This technique requires first the development of an extrapolative forecast of a trend, then the identification of surprise events which could affect the trend, a concurrent judgmental evaluation of the impacts of these events on the trend, and, finally, through use of the computer and Monte Carlo or similar routines, calculating the probabilistic forecast of that trend.[4]

State III: Goal Setting

The first two stages of a policy-impact analysis model, monitoring and forecasting, perform the role of organizing, structuring, and articulating images of the future with respect to a particular set of assumptions and indicators. The next stage of the model, goal setting, revolves around the process of setting realistic goals given the information provided in the first two stages of the model. This stage requires the generation of a "desirable" future in a procedure much like that of forecasting using the delphi method. This process may involve educational experts, as well as authorities from business, industry, public interest groups, and the government. The rationale for this stage is based upon the importance of having a concept of the desirable future with respect to a particular issue in order to develop policies designed to achieve this future.

Stage IV: Policy Analysis and Implementation

The first three stages of this model served to identify specific trends, the events which may affect those trends, and the goals of the organization. As such, these steps specify policy options and responses.

In the final stage the research staff estimates how a particular policy may affect a given trend through affecting the probability of the occurrence of one or more specified events affecting the trend.

To briefly illustrate, suppose that the policy issue being studied is teacher competency, and that measurements of teacher competency have been made since 1960 and are part of the data base available to the staff research unit. Furthermore, assume that teacher competency was not forecast to increase over the next 10 years, although the desired future would be one in which teacher competency increased. In this stage of the model the staff would first identify those events which could affect teacher competency, e.g., the state of the economy, the curriculum in colleges and universities (and in schools of education in those institutions), the working conditions of the profession (such as class size, salary, facilities, and equipment available), the competency of school administrators, etc. Next, they would identify possible policies which could affect these events (or which could affect teacher competency directly), e.g., developing "better" in-service and pre-service training programs for teachers, increasing the attractiveness of working conditions, increasing the competency of school administrators, increasing the quality of individuals recruited for training and placed in teaching jobs, etc.

Of course, implementation of specific policies can affect the probabilities of events, i.e., they can make them more or less likely to occur. Too, events can interact with each other to affect specific trends. Consequently, a policy might affect several events, thereby changing the probabilities of their impacts on each other and on the trend of concern, teacher competency. Such interactions between policies and events may be categorized in a policy-to-events impact matrix, a matrix which enables the staff to generate new estimates of the probabilities and impacts of those events modified by the policies. These estimates are calculated on the basis of multiple conditional probabilities in the computer routines cited earlier in the discussion of probabilistic forecasting. The end result of this somewhat complex activity is a policy-impacted forecast for teacher competency given the implementation of specific policies designed to improve teacher competency directly, or indirectly by impacting on those events which in turn affect teacher competency. Thus competing policy options may be evaluated by identifying those policies with the most favorable cost-benefit ratio, those having the most desirable effect, the most acceptable trade-offs, etc.

Discussion

Evaluation occurs when the policy-impact analysis model is iterated. That is, when the selected policies are implemented, the process of monitoring begins anew, thereby enabling the staff to evaluate the effectiveness of the policies by comparing actual impacts with those forecasted. This requires that the data base of social/educational indicators be updated and maintained in order to evaluate the forecasts and policies and to add new trends as they are identified as being important in improving education in the future. Implementation of this model also requires that new and old events be reevaluate, and that probabilistic forecasts be updated in order to enable goals to be refined and reevaluated. This activity leads to the development of new or reevaluated old policies, which in turn, enables the staff to update policy-impacted forecasts.

It should be noted that the futures research techniques described here, particularly the probabilistic forecasting methods, have been developed only within the last decade or so, and have been used primarily in business and industry, with mixed results. The efficacy of these techniques is dependent upon the ability of the staff to (1) identify those events which may affect a trend directly or indirectly, (2) accurately assign subjective probabilities to those events, and (3) design and obtain a reliable and valid data base of social/educational indicators. To meet these conditions requires a talented staff, and to meet the conditions of the policy-impact analysis model, i.e., close interaction of policy makers and staff within each stage of the model, is a heavy requirement indeed.

However, given these requirements, conditions, and limitations, the model uses the most advanced technology available in contemporary social science in a rational approach to provide policy makers more reliable information about possible futures, and how to use that information to achieve a more desirable future. We commend it, therefore, to the Southeastern Regional Council for Educational Improvement as an approach which should be explored in their deliberations concerning policy development and implementation at the regional level.

Footnotes

[1] This presentation is based upon a recent article by William Renfro (1980) and on an annotated bibliography concerning futures research in our final report to the Council (Munger and Morrison, Note 1). This bibliography, an appendix of the final report, is available from the Council upon request, as is the entire final report. Address requests to Dr. Bernice Willis, Southeastern Regional Council for Educational Improvement, P. O. Box 12746, Research Triangle Park, N.C., 27709.

[2] For a detailed description of various forecasting techniques see Allen (1978), Alter (1979), Amara (1972), Armstrong (1978), Enzer (1976), Ewing (1979), Fowles (1976), Gordon and Stover (1976), Lipinski and Tydeman (1979), and Martino (1972).

[3] For a detailed description of the delphi technique, see Linstone and Turoff (1975).

[4] One should note that Monte Carlo routines tend to require large computers and many computer runs, and therefore, are somewhat expensive to use. Several agencies have developed computer programs which approximate the Monte Carlo method and are more efficient. For example, the Futures Group (76 Eastern Boulevard, Gastonbury, Connecticut 06033) has developed a computer software package for trend-impact analysis (FUTURESCAN), and the Center for Futures Research, Graduate School of Business Administration, at University of Southern California (Los Angeles, California, 90007) has developed a software package for cross-impact analysis (INTERAX). Both packages enable the user to engage in probabilistic forecasting.

References

Allen, T.H. Cross-impact analysis: A technique for managing interdisciplinary research. *Journal of the Society of Research Administrators*, 1978, *10*(1), 11-18.

Alter, S. The evaluation of generic cross-impact models. *Futures*, 1979, *11* (April), 132-150.

Amara, R.C. A note on cross-impact analysis: A calculus for sequence-dependent events. *Futures*, 1972, *4* (September), 267-271.

Armstrong, J.S. *Long-range forecasting: From crystal ball to computer*. New York: J. Wiley & Sons, 1978.

Enzer, S. *INTERAX - An interactive model for studying future business environments* (Monograph 35). Los Angeles: USC, Center for Futures Research, 1979.

Enzer, S. *Interactive cross-impact modeling* (Monograph 27). Los Angeles: USC, Center for Futures Research, 1976.

Ewing, R.P. The uses of futurist techniques in issues management. *Public Relations Quarterly*, 1979, *24*(4), 15-18.

Fowles, J. The problem of values in futures research. *Futures*, 1977, *9*(4), 303-314.

Fowles, J. An overview of social forecasting procedures. *Journal of American Institute of Planners*, 1976, *42*(3), 253-263.

Gordon, T.J. & Stofer, J. Using perceptions and data about the future to improve the simulation of complex systems. *Technological Forecasting and Social Change*, 1977, *9*(1/2), 191-212.

Linestone, H.A. & Turoff, M. (Eds.) *The delphi method: Techniques and applications*. Reading, Massachusetts: Addison-Wesley Publishing Company, Inc., 1975.

Lipinski, H. & Tudeman, J. Cross-impact analysis: Extended KSIM. Futures, 1979, 11 (April), 151-154.

Martino, J. P. Technological forecasting for decision-making. New York: Elsevier, 1972.

Munger, F. J. & Morrison, J. L. Design of a data base of educational indicators for use in policy analysis. Research Triangle Park, N.C.: Southeastern Regional Council for Educational Improvement, 1980.

Renfro, W. L. Forecasting the impact of public policies. Long Range Planning, 1980, 13 (August), 80-89.

designing regional data bases of social/educational indicators

JOHN HAYMAN

Actually, though you may not be able to tell it when I am finished, we are talking about related activities. North Carolina had a contract with the Council and Auburn had one. Our purpose was to look at the possibilities of a Southeastern rural education information system. Over our six month planning period, we developed a plan for the design of this system. UNC-Chapel Hill was addressing the broader total information system needs, and Auburn was focusing in more detail on one particular type of information.

In considering a plan for a rural education information system to support the Council and the Council's operations, we saw three aspects. First, since we were dealing with a particular kind of information, the fact that we got a separate contract is an indication that somebody thinks rural education is different from other kinds of education. Second, we are talking about information for regional planning on a regional basis. Among other things, this makes the total situation quite complex because it involves everything from individual schools up through a ten state region. Third, the Council has defined its role mainly as supporting policy analysis and policy development, and when we say we are supporting Council, we must focus information which has policy relevance.

What information is needed to support policy research and policy analysis? We have come to the conclusion that it would be very different from what is produced by the normal management information system that we hear a lot about in companies and public institutions. In conducting the project, we did a thorough review of the literature so we could learn, basically, about rural education. That went on for about six months. We tried to find out as much as we could about the state of knowledge in this area, what different experts say about the rural setting, how it was different, how it should be conceived, and how one could find out about it in terms of policy needs.

We did an information needs survey. In each of the ten states we asked for 15 names which would comprise a diverse group, and we asked to include local school people, state school people, a couple of extension agents, and people from governmental agencies in rural areas. Our purpose was to get their opinions as to the information they felt was needed to make decisions about rural education. We had a pretty high response rate, about 70 percent, which is not bad for this type of survey. We found out what people say they think they need; we did not find out what they will actually use. The key, of course, is what will actually affect decisions.

We also did a survey of sources. The thought was that the plan we presented should recommend use of data already available as much as possible, and new data should be collected when it is not already available.

We also had a set of planning sessions in which we tried to involve some people that we thought could help us. We had Everett Edington, who is the Director of the ERIC Clearinghouse on Rural Education and Small Schools, Bill Linder at the Southern Rural Development Center at Mississippi State University, and a special meeting with the management information system or data processing representatives from the ten State Departments of Education. One of the main things SDE personnel told us was that they were fearful we were going to lay something new on them; they all feel that they are already overburdened and underresourced.

Why should rural education receive special consideration? Based upon the literature and the experts consulted, we do not think rural education is different in terms of learning processes or in terms of the particular goals for the individual learner, such as mastering the basics, understanding one's place in society. What's unique about rural education, we think, is the setting that it's in, the social, cultural and demographic setting. This is what has to be taken into account. Edington observes that, "In the United States for some reason, when we look at education, we tend to look at it in isolation, as a separate system operating by itself." Rural development, on the other hand, is approached with too little reference to education as it should be. In other words, the two ideas, the two developed thrusts, move more or less independently of each other. What we need is an integrated approach, to see education in the larger context of the rural community, in terms of the economic subsystem, the social subsystem, the cultural subsystem, and the political subsystem. We think that it is very important that we try to look at both the rural community and rural education together and not simply to look at educational variables as such.

We discovered that there is a definitional problem with rural education. Nobody can agree what it is, and some people have simply said that it's nonmetropolitan. So, before we go much further with the rural thrust, we need to get a better definition that all concerned can agree on. It's a situation where people tend to live in relative isolation, where population is less dense than it is in other places. The economic base has been very weak in rural areas. Students in rural schools tend to perform lower on academic tests, for whatever they're worth. There are other characteristics too.

There was an interesting report at AERA last year that supports what we are trying to talk about. A fellow from England had conducted a very relevant study. There had been a number of closings of rural schools in England since the end of World War II, on the order of about 2000. At the time that the closings were made, strictly educational variables were examined. That is, decision makers looked at enrollment, pupil-teacher ratio, these sorts of things. The investigator went back later and analyzed what the impact on the community had been in the closings. What he discovered was, of course, that in some cases the school played a very central role in the community structure, in the way the community was put together. It was very destructive in those communities when the rural school was closed. In other situations the rural school did not have that kind of central place, and it did not make as much difference. The point is that you simply cannot look at the rural school in terms of educational variables alone, but it must be seen in the larger context.

A second part of our work is to study rural education in the context of supporting related policy. Those of us who have worked with information systems and in the research business for a while will have to admit that policy support with information has not been highly successful. Most information systems perform better in supporting lower levels of decision making. The normal breakdown is to talk about strategic management, tactical management, and line management. Strategic management involves people who are responsible for making decisions that are long-range, that require more creativity, and that have a larger effect on the organization. At the tactical level, the decisions are not as long-term and not as demanding, and finally at the line level are short-term decisions. Most management information systems are much better at supporting the lower levels of management and, in general, are not very effective in supporting policy levels.

I do not imply this is because people do not know what information ought to be made available. The problem is it is not used. I think this is where we are facing a difficult problem in this project. Stafford Beer, one of my favorite authors, says that until there has been a change in the decision process, all we have is data, or what he refers to as "seas of useless facts." What we need is not to inundate people with data as we have tended to do in the past, but to give them information, information being defined as data which changes decisions. And, according to Beer, at least, unless there is a change in decisions, there has not been any information exchanged.

If we take this point of view, it puts the responsibility, it seems to me, on the people who are responsible for supplying the information. There has been a tendency over the years of the researcher to say "I know what a decision maker needs, so I give him the information and he ignores it; he's not rational because he's not listening to what I tell him." I don't believe this as much any more. I think the problem is to present the information in a way that communicates clearly and easily. Most very busy, high level decision makers simply don't have the time and are not going to take the time to study long documents and dig out what they say. If you put the communications burden on them, the data will not have any effect. Somehow we have to find a way to communicate the essence of the information to decision makers in a way that has meaning to them in terms of their professional life space and in a way that does not require great effort on their part.

Another thing which Jim talked about and we have talked about, is that policy making is also a political activity. Very often we tend to forget that a policy maker is not only looking at the objective facts, the objective aspects of a situation and the kinds of decisions that relate to these objective aspects, but he is also having to make political kinds of decisions. This means trying to negotiate, trying to mediate among a number of conflicting claims, trying to make decisions when very often there is not any single right decision and no value that is absolute.

If we are trying to support policy-level decision makers, we have to do three things. First, we have to give them the objective aspects of their situation of concern. This means communicating the status of certain relevant variables; providing trend data so that there is some basis to make extrapolations and forecasts; and very important information on the environment. Strategic planning is a future oriented activity, and in each case they need to know something about what the future challenges are going to be.

Secondly, we need to find some way to support policy level decision makers in their political situation and to facilitate the negotiation process. We have some ideas on that. Namely, we can develop better understanding of values and norms relevant to particular rural settings. How people are likely to react to certain kinds of actions taken and what some of the cultural and social dynamics are in the particular situation should be particularly relevant in terms of the political aspects. Also, relevant is the nature of the particular institutional system involved, that is, the values and norms, patterns of decision making and leadership, and the reward systems.

The third need is to help people understand better what resources they have available, what kinds of decisions that they might make, or, to use a systems term, to enlarge their "variety pool." The need to have a wider repertory of behavioral options, in other words, so that they can respond positively to the challenge that lies ahead.

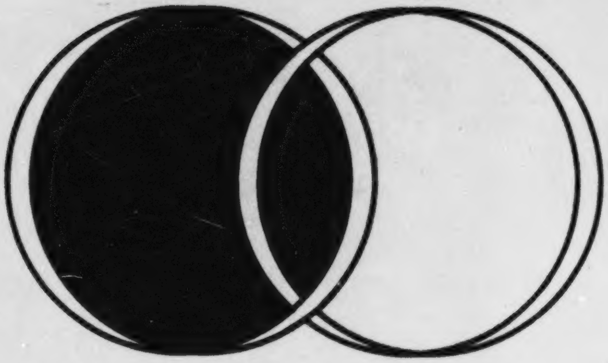
We arrived at the conclusion that the only possible way that this could be approached with any hope of its success is through the use of models. Now, to me "models" has always been sort of a scary term. It's abstract and people keep telling me I ought to use them, and I've often had the uneasy feeling that I wasn't sure how. I think it is easy and glib to say we'll use models, and I thought about stopping there. But, to give you some idea of what I think we are talking about, I want to present a flow model. This is a dynamic model, in that it has a time dimension. It shows how particular entities flow through a system, from one location to another. The boxes could be any kind of processing point. It could be a classroom, for example. It could be a school, it could be a school district, or it could be a local government office. Any kind of location where some type of process occurs and where there is some change. This shows not only where things are supposed to be happening, but it shows the interactions between the various routes and the flows there. In this particular example, which was drawn from work that Beer did for the national government of Chile, the size of the box indicates the capacity of the unit and the hashed section of it indicates the amount of capacity that is being use. Our supposition is that by thinking this through carefully we can deliver the information and the meaning of it to a decision maker in a much more effective way, in terms of understanding and producing effects on decisions, than we could with text and sets of tables.

Consider another example of a model. We said it is very important in all situations, but especially in the rural setting, to understand the social dynamics, the flow of authority, the way people communicate with each other, how decisions are made. This is a communication network model that was originally worked out by Furace of Michigan State and has had extensive use. There are computer programs that can handle the data, so analysis is not a big problem. What the model does is show how information flows in the relevant system. It could represent simple communication, it could represent lines of authority or other things that show the relationships of people. I think you can see the advantage of this model. If one were trying to make a change in a community and had this kind of information, it would indicate where to go and how, and it would give an idea of what strategy to follow. Other types of models are familiar. The standard statistical procedures, for example, are based on models. Note that in each case, the model represents a complex situation in a direct, readily understandable way; it greatly reduces the data with which the decision maker must deal.

We are working with a ten-state region in the project, and we must be concerned with many decision levels from the school district all the way up to the region. It is important always to put the decision making process in context. One person's policy is another person's tactics; what's policy in one situation may not be in another situation. This is to say, simply, that we feel that we have to have different levels of analysis corresponding to different levels of decision making. At the local level, if that's where we are going to start, there is a superintendent. You move up, maybe there are intermediate units, as in Pennsylvania, New York, and some others. At each level, a different set of data and a different set of models is needed. The model is context specific and the decision maker grasps meaning and is influenced according to his or her understanding of the relationships to professional life space. So, we think it is very important that the scheme be worked out so that policy makers, at each level are served. This, of course, increases the complexity involved.

As we understand the Council's intentions, there will be a general data base to try to help educators make better policy decisions. Located in the Research Triangle Park area would be the data base management system, which would have integrated data bases. (I'm sure you are aware that a data base management system can use data bases from different sources as long as they are put together with a standard set of protocols and specifications. You can then use information that was put in for one purpose for a lot of different purposes.) The notion is that there would be different suppliers for different parts of the data base: the Council, through its work with the states, would determine which data base components are important; and most users in the states would access the system primarily through the State Departments of Education. My understanding of the situation is that a person at a local level would get the information from the Council through the State Department of Education. Someone at the State Department of Education level would have the responsibility for securing it, and as far as they are concerned most of the system should be invisible. It should be so easy to operate, in other words, that its inner workings would be invisible to the user at the state level, as in direct dialing a long-distance call. Essentially, the idea is to have the data base manager organizing this so that there is a wide range of uses that are interactive to the extent possible, very simple to operate, and put together in terms of what users in the states want and need to support policy decisions.

This is a gigantic undertaking and it won't be completed in a short time. It is certainly worthwhile, and we hope that we have a chance for further involvement with it.



the rural experience: bullock county, usa

the rural experience: bullock county, usa

RUFUS HUFFMAN
ANNIE MAE TURNER

In this presentation the speakers will do two things: 1) Present themselves, their backgrounds, and their philosophies; 2) Present their community, a rural area, Bullock County, Alabama, and some examples of development experiences as they relate to the theme of this Conference: "The Public Education/Private Sector Partnership." But more than that, the presenters intend to show how the partnership concept can be dominant in every aspect of community development.

The speakers begin with a disclaimer. They have not solved all their problems in Bullock County, and they do not claim to have all the answers. Because they like to take the positive approach, however, they will be concentrating in this presentation on successes rather than failures.

Both presenters in this session come from a background of training and experience in public education. It is easy for them to relate to the importance of education in all their endeavors. However, both have been thrust into other roles in the community: government, business and industrial development, agriculture, health care, and criminal justice - to name just some of the hats they wear at various times. But because of their background in education, they are perhaps more conscious than many of their peers in Bullock County of the truth of John Gardner's statement:

"EDUCATION IS THE SERVANT OF ALL OUR PURPOSES"

Beyond these basic principles Judge Huffman and Dr. Turner have an even deeper commitment to their common roots in the community where they live and work - the community where they grew up from childhood, attended local schools and churches, married their mates and produced their families. They never severed ties to family, friends, and society in Bullock County, though both over the years broadened their horizons through travel and work in other parts of Alabama as well as throughout the nation. Each could expound for hours on their comprehensive span of experiences outside the boundaries of Bullock County: Judge Huffman in public education as a teacher, recipient of a Ford Foundation Fellowship, study at some major universities, as education director for the NAACP in the southeast, as a major figure in the Civil Rights Movement, and as a political leader. Dr. Turner's background also reflects state and national involvement in public education, as a leader in both the Alabama Education Association and the National Education Association, as a staff member of the State Department of Education, and as a teacher and administrator in the public schools.

Now by choice both are directing their energies and talents to development in their home community. It's as if all their past experiences and training were in preparation for the roles they now play. Both believe they are uniquely qualified to discuss the assigned topic,

"THE RURAL EXPERIENCE: BULLOCK COUNTY, U.S.A."

The speakers' individual backgrounds have pointed the way to their involvement in the affairs of Bullock County. They expand on their common roots and point out differences in their backgrounds.

The audience can note the obvious differences in race and sex. Judge Huffman is a black male; Dr. Turner is a white female. They trace the roots related to their cultures, so close geographically and yet so separate, especially at certain points in time.

Judge Huffman was born in the western part of the county between Fitzpatrick and Shopton, over on the Hill Place. The Judge sometimes explains, "I was born so far back in the mud that a buzzard's shadow would get stuck because it was that muddy." Judge Huffman spent his first five years of school in the one-teacher Murray School. It was open nine months in the year. During the season when there was no cultivation and harvesting of crops, attendance was good and there would be about 100 students. During the harvest time attendance was poor, especially for those in the upper grades, say from the fourth grade on up. They had to stay at home and work.

Back then, black schools ran nine months - like those at Oak Grove Number Four, Thompson, and Oliver. But Judge Huffman's school was to far to walk and there was no transportation for blacks. After the sixth grade, Judge Huffman lived with an aunt in Birmingham to attend school.

Judge Huffman always went to segregated schools because he was out of high school and college before the Brown decision. He always wondered why it had to be that way and longed for the time when this would be corrected, but at the same time one must take advantage of all that is available.

Winning contests in spelling and arithmetic was a source of pride for young Rufus Huffman, especially arithmetic. His grandmother always encouraged him and told his father to be sure Rufus was sent to school. When he finished the eighth grade in Birmingham, Judge Huffman was on the verge of quitting school because of rumors about the school where he was to be transferred. The school had a reputation for doing some real mean things. Instead, Judge Huffman's father allowed him to move to Montgomery and live with a cousin and attend Booker Washington High School. In Montgomery he lived under some very trying conditions. The cousin didn't have room for all to sleep so Rufus ate with the cousin and slept at a neighbor's. This proved to young Rufus that where there's a will there's a way.

College did not follow immediately after high school. Growing up, Rufus had aspirations of being a doctor. His second choice would have been a lawyer. There was no high school counselor to encourage college; like his peers, Rufus did the defensive thing by dropping out of school and getting a job. This was in 1946 right after World War II. A lady Judge Huffman feels indebted to persuaded him to get a job teaching instead of going to a trade school to take auto-mechanics. He taught two years with an emergency certificate in Russell County. Because he liked it so well, Rufus went back to school and got his degree at Alabama State University. He did undergraduate work in elementary education and went back later for a secondary certificate in social studies. In 1967-68 Judge Huffman was fortunate enough to get a Ford Foundation grant with the opportunity to study at the Robert Louis Science Institute in Aspen, Colorado, and a semester's study in human relations at New York University.

For many years Judge Huffman was a volunteer with the NAACP and in 1970 he went with NAACP as a staff person. Judge Huffman feels that he was one of the few school teachers in this part of the country who was naive enough to serve as vice-president and then president of his branch and still work in the white controlled public school system. (For some time the NAACP was illegal in Alabama.) As a staff person with NAACP he had an office in Tuskegee and was field educational director of the Southeastern region composed of 14 states. The major goal of this department was to effectuate a smooth transition to school desegregation, and in many instances Judge Huffman served as a watch-dog and a trouble-shooter. It was during this time period that Judge Huffman became aware of the activities of another Bullock native, Mrs. Annie Mae Turner, now a working colleague back home and teammate in this presentation.

Dr. Turner claims to have come on the scene about a decade or more ahead of Judge Huffman. But the setting was essentially the same - rural Bullock County with plenty of muddy roads. Dr. Turner was born in the central part of the county, six miles south of Union Springs in a small community called Sardis.

Mrs. Turner was the oldest of six Paulk children, all continuing today to live and work and rear families in Bullock County. The Paulk clan now numbers more than 60, though some of the children and grandchildren have settled in other places. The Paulk parents were farmers who broke away from the traditional pattern of growing cotton and row crops and embarked on an enterprise started in 1918, the year of Annie Mae Turner's birth, and called the Bonnie Plant Farm. Today, the brothers carry on the business which operates in 12 states and is the largest plant farm of its kind in the nation. The youngest brother is presently in Orlando where the farm owns land for growing plants that survive better in that climate.

During financially lean years the four brothers and two sisters attended the public schools in Union Springs, riding the unheated school bus over muddy country roads, blissfully unaware of their deprivations. After high school, Dr. Turner attended the University of Montevallo where she became certified as a teacher, the realization of a lifelong dream. Later she received degrees from Auburn University and the Union Graduate School in Cincinnati, Ohio.

By 1946, the year Judge Huffman graduated from high school, Annie Mae Turner was married to a Union Springs businessman and had given birth to the first of four sons. By the 1970's Dr. Turner had had extensive educational experiences including the turbulent years of desegregation in the Bullock County Schools. These struggles did not produce a truly integrated school system. As it did in other areas of the South, white flight resulted in the private school movement in Bullock County, and the Bullock Memorial School with its 12 grades has an enrollment of about 700 students. Some white students commute to nearby counties and approximately 30 students attend the Bullock County Public Schools whose black enrollment is a little over 2,000. The professional staff of 148 include five white teachers. The 1964 Court Order, under which the Bullock County Public Schools now operate, and subsequent events involving race relations, provided Dr. Turner with a number of ties to an aggressive activist by the name of Rufus C. Huffman. Her youngest son and his youngest were sixth grade classmates in one of the first integrated classrooms in Bullock County. Judge Huffman's older son was a student in the school where Annie Mae Turner was a teacher.

Dr. Turner remembers that in 1966 blacks in Bullock County qualified for the first time to run for public office and R. C. Huffman was a candidate for Tax Assessor, an election he lost but one that created much interest in the county. Ten years later he was elected Probate Judge. By this time the voter registration effort had swelled the list of black voters and blacks were elected as sheriff, to the Board of Education, to the County Commission, to the City Council in Union Springs and Midway, as Circuit Clerk, and as Tax Assessor.

But Rufus C. Huffman aspired to another position which he was not granted. Both he and Annie Mae Turner applied for the appointed office of County Superintendent of Education in 1975. Neither was given the position. Instead a brilliant young, white educator from outside the county was the choice of the all-black, all-male Board. His name was

Jack D. Cook, he served for three years, and he is the coordinator of this Conference and the reason behind this presentation.

When Jack Cook arrived in Bullock County, the school system had completed the Comprehensive Education Study which was a prime example of PARTNERSHIPS that produce positive action. This in-depth needs assessment was collaboration in the highest sense. It involved a major state university, the University of South Alabama in Mobile through its General Assistance Center, an agency funded by Title IV of the Civil Rights Act. This service brought to Bullock County some 25 specialists who worked closely with the school and community in identifying ten top priorities. Superintendent Cook not only plugged into the various groups set up to implement the recommendations coming from the study, but he added his own interest and expertise, especially in the areas of human relations, communication skills, and problem-solving techniques. Of the many results of Mr. Cook's leadership during this period, the most tangible is perhaps the AREA VOCATIONAL CENTER (AVC) which is in itself an example of the PARTNERSHIP concept. The building and property on which the facility stands was owned by the City of Union Springs. At one time there was both a city and a county school system. This building has served as a city high school, a county high school, and a county middle school. Under the comprehensive school reorganization plan, the old deteriorating facility was completely renovated with funds supplied by the State of Alabama, the city of Union Springs, and the county through the Bullock County Development Authority with income from a special industrial sales tax.

One significant fact about the AVC is that the program and curriculum functions were developed BEFORE the building was renovated. The Center Director was brought on board during the planning stages (mainly because of the persistence of Superintendent Jack Cook). The physical features of the building therefore reflect an educational philosophy that is consistent with the needs of the community. Now that's not just a bunch of jargon. The whole planning process involved here is a model for what the presenters believe should be the direction of all educational planning. One illustration of the link between public education and the total community may be found in an activity promoted in October by the Health Occupations education classes. Though the activity was mainly social in nature - a formal reception for new health care personnel - it was the culmination of some 24 months of concentrated efforts to recruit doctors to Bullock County, and it was an indication of the school's role in those efforts.

Doctor recruitment is one of the real success stories in Bullock County. Since June of 1980, four new doctors have located in the rural community. This may not seem to be a large number until it is pointed out that the new doctors represent nearly a 100 percent increase. That's a survival story of the first magnitude.

Less than two years ago, Bullock County was facing the loss of its hospital and the many health care services that depend on an adequate medical facility. Not to mention the fatal results the loss would have on existing business and industry, new industry recruitment, and the general quality of life in the community. At that time, Bullock County had a few good doctors: a fine surgeon, a semi-retired physician, a general practitioner nearing retirement, and a National Health Service Corps pediatrician - and they were all overworked. The 32-bed hospital was beset by financial troubles: low patient census, difficulties in emergency room coverage, state and federal guidelines which required expensive renovations and around-the-clock staffing, a growing deficit. However, any talk of closing this key facility brought cries of concern from local business, industry, government, churches, and just plain citizens. The voices of protest were strong and the solution was found in their concern. Two significant actions are worthy of note. The first was an emergency meeting of the Hospital Board and medical community, City Council, County Commission, Bullock County Development Authority, and a large group of other concerned citizens. The result was immediate appropriations which enabled the hospital to remain open. Decisions made in that session were based on carefully prepared information, displayed and explained to all present. But this solution was a temporary one.

The primary goal of this solution was to buy time, to keep the hospital operating until a more stable answer could be found. An Ad Hoc Citizens Committee launched a campaign to provide more secure financing and to recruit doctors. More than $20,000 was contributed by volunteers for expenses of doctor recruitment. New doctors locating in Bullock County since June of 1980 are the following: a general practitioner, a family practitioner with training in Obstetrics and Gynecology, a pediatrician, and a dentist.

Bullock County has been a beneficiary of HEW's Rural Health Initiative Program for the past three years. Budget requests have decreased as local efforts have made the county more self-sufficient. Health Care officials are pleased to report that for the year beginning September 1, no federal funds will be received for operational expenses. Presently, there are two physicians and one registered nurse in family practice who are members of the National Health Service Corps and are on salary from this source. Don Priori, chairman of the Hospital and R.H.I. Boards, has provided the leadership and persistence necessary to achieve these successes. As the county moves into a more independent phase of health care, local partnerships will be more important than ever.

For example, a close liaison has developed between the Bullock County Public Health Department and agencies already described. The need has been recognized for more linkage between these programs and the East Central Alabama Mental Health and Mental Retardation, Incorporated, which is expanding its services through the Bullock County Unit.

In a rural poverty area like Bullock County there are some problems that run both deep and wide, that are related to all developments, and that are solved only through a slow, steady process - a process that involves a series of PARTNERSHIPS. Two of these problems are WATER and HOUSING. Take a look at HOUSING. You don't need to travel long and far in Bullock County to know that the housing problem is not yet solved completely. There are some beautiful homes in the area. Some may be described as mansions. And there are some shacks, box-like dwellings that would seem unfit for human habitation. But great progress has been made in housing development. The Organized Community Action Program (OCAP) self-help housing program has provided incentives for people to build and repair their own homes. Through grants and loans from the Housing and Urban Development Program (HUD) the Bullock County Housing Authority has been in operation for more than 15 years. Neat housing units have replaced many of the dilapidated shanties, especially in Union Springs. Three HUD projects now underway in areas called New Town and Grove Circle are providing for drainage and street improvements as well as repairs to homes and new construction. As a result of these projects more than one million dollars is flowing through the economy with local contractors, building suppliers, carpenters, and plumbers benefiting directly. Just last week, Judge Huffman presided at a ground-breaking ceremony on another HUD construction site where 40 units will be built. These are primarily for low income and handicapped persons.

Since the Rural Electrification Act of 1936, electric services have become common to rural communities, even to the most remote areas of Bullock County. But this is not true of WATER services. Quoting from a booklet distributed by a consumer-owned local utility: "Dixie Electric Cooperative is deeply committed to the needs of its service area. The first need was electric power; the immediate need some 40 years later is drinking water."

In 1975 it became apparent to the Board of Directors of this cooperative that the single greatest unfulfilled need of their member users was access to a plentiful source of safe drinking water. Since that time, through close coordination with public officials, the Cooperative has become the development vehicle for construction and operations of rural water facilities in portions of its service area. Rural water development really began in Bullock County in 1969 with the South Bullock Water and Fire Protection Authority. But it quickly became evident that community volunteers, no matter how great their dedication, did not have the engineering expertise, water-testing skills, and utility management abilities to plan and operate a water system. They turned to the Cooperative with its 40 years of successful experience in electric service and found the management willing to convert to a full service utility. Not only that, management had the ability and aggressive drive to put together a funding package that would make the best possible use of local money. Using a combination of funding sources composed of grants and loans, the Co-Op manager (also chairman of the Bullock County Development Authority) was able to swell the local tax dollars of less than $400,000 to a project that totaled over four million. The result is that in 1980 the Cooperative provides through contract water service to more than 1,400 water consumers in Bullock and neighboring Pike County. Funding applications in process provide for immediate facilities to serve over 500 more water consumers, and long-term planning calls for provision of water to all residents of the electric service area and cooperative ownership of all facilities. The total water development project also includes water and sewage facilities for Hicks Industrial Park, a joint project of the city of Union Springs and the county.

Another great need is to balance the agricultural economy with enough industrial development to provide more jobs. The improvements already discussed - in education, health care, housing, and water service - all are factors that prepare the community for attracting industry. In early 1950, Bullock County citizens imposed a one cent sales tax upon themselves and set up the Bullock County Development Authority to propose projects to be supported from tax revenue. The Chamber of Commerce was organized in 1980 to augment the campaign to sell the community to industrialists. This group is conducting a "Shop at Home" promotion drive for November and December. Fact-collecting teams are preparing community data to be used in brochures about Bullock County. A Main Street Revitalization project is underway. The Courthouse District has 47 buildings that are on the national register of historic places, and this discovery is a great asset in stimulating downtown business. With a $10,000 matching grant from the Department of the Interior through the Alabama Historical Commission, a young local architect will survey the Main Street buildings and submit a detailed plan with drawings for historic preservation. Other community resources include a beautiful public library and historic churches, large and small, which are at the center of community life in Bullock County. Add to these an ideal climate, abundant labor supply, available sites, and a willingness to provide financial incentives, and enthusiasm for Bullock County is clearly understood.

In addition to promoting industrial development, an equal emphasis is placed on preserving and expanding the major industry - agriculture. Here the PARTNERSHIP concept is manifested in many ways. For example, the Alabama Cooperative Extension Service, with its "Education Is Our Business" theme, is a partnership: Bullock County Commission, Auburn University, Tuskegee Institute, and United States Department of Agriculture. In a publication called IMPACT '80, a plan of action is explained for developing the county's agricultural industry and for improving its family and community life. Leaders in agriculture, home economics, community resources development, and 4-H youth programs have set goals, determined needs, and enlisted the support and cooperation of others in helping Bullock County attain its economic potentials. Bullock County's agriculture is big. An annual $12 million gross farm income makes it so. However a gross income in 1980 was considerably less than anticipated because of the summer drought and its effect on crop yields, especially soybeans. Every dollar of farm income generates $3.50 in business activity. As pressures are building at home and around the world for more food and fiber, the county needs the economic boost that will flow from a more dynamic and more fully productive agricultural industry.

As this conference looks to the future of education in the Southeast, leaders should not overlook the tremendous potential of the small rural agricultural areas of our country. In Bullock County, many agencies are working with farmers, joining in a great push to further develop agriculture - to get technology to the farmer, motivate him to use it, and help him adapt to it - so that he can produce more at less cost, and so that he can develop better marketing channels.

Agencies also recognize their responsibility to help increase efficiencies in those areas that service agriculture: assembly, transportation, processing, distribution, and marketing. They use day-to-day personal contacts, educational materials, night training classes, computerized management services, farm demonstrations - whatever educational technique is needed - to help Bullock County's primary industry grow.

The election campaign just completed placed much emphasis on a return to old values. Bullock County doesn't intend to live entirely in the past, but its people do have a reverence and respect for certain values that they believe contribute to the quality of life. Bullock families, like all American families, are living in a world of change. Many programs are aimed at helping people cope with change, gain a sense of control over their environment, and acquire the knowledge and skills they need to become more self-reliant. For example, the motto of one self-help agency (Organized Coummunity Action) is "Helping People Help Themselves."

Emphasis is on the total family with improvement in the quality of family living as the ultimate goal. Educational programs focus on senior citizens, children and families, clothing, arts and crafts, family resource management, housing, human nutrition and health, and the 4-H youth program.

The United States Department of Agriculture operates a number of strong programs in Bullock County. Four of these agencies which focus on rural development are the Soil Conservation Service (SCS), the Agricultural Stabilization Conservation Service (ASCA), the Farmers Home Administration (FMHA), and the Forest Services.

Recently these agencies and others[*] cooperated to appraise the potential for outdoor recreational development in Bullock County. A booklet was published citing 11 kinds of outdoor recreation possibilities in the area. Another publication released in July 1980 presents a long-range program for the Bullock County soil and water conservation district and is a part of a national soil, water, and related resources program developed by the U.S.D.A.'s Soil Conservation Service. Closely related to these studies is a document published in April 1980 by the South Central Alabama Development Commission (SCADC). It consists of a comprehensive recreation plan for Bullock County.

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[*] Bullock County Commission
Alabama State Department of Conservation
Auburn University Extension Service

The SCADC has collected and compiled vast amounts of information on Bullock County and has published a variety of comprehensive studies for local use. In addition, the Commission has given technical assistance to County Officials writing grant proposals and securing funds for community development projects.

The Agricultural Stabilization and Conservation Service (ASCS) sponsors a variety of farm programs and works in conjunction with other agencies of the U.S. Department of Agriculture.

The Agricultural Conservation Service (ACS) is a joint effort by farmers and the government to restore, protect, and preserve the environment. The Forestry Incentives Program (FIP) is another cooperative effort of ASCS and the U.S. Forest Service and State Foresters. Its purpose is to share the cost of tree planting and timber stand improvement with private land owners.

Bullock County is presently concentrating on a new facility project which entails the cooperation of these agencies and others.

In March 1980 the county's ancient jail was closed by the State Fire Marshall after being condemned by Grand Juries for the past 25 years. Officials discovered that it's not a simple matter to build a new jail, that constitutional requirements will not allow jail construction under old guidelines, and that meeting the new requirements costs more money than is available with local funds. The CRISIS situation prompted community concern. At the same time, the county recognized building needs that at this point in time do not pose a crisis, needs which may be even more far-reaching than the need for a new jail. In seeking a solution to the CRISIS problem, citizens discovered that there may also be a solution to other problems and that the situation may be used for generating new opportunities for growth.

County governments for many years have been faced with this problem with no easy solution. The approach this time is to gather as much information as possible and involve as many people as possible before making decisions. Early on the county government enlisted the help of the National Institute of Corrections, and their consultants have visited the community, conducted a workshop in Bullock County, and provided a wealth of information. County officials attended a workshop at the Jail Center in Boulder, Colorado.

As a result of all this, a plan of action was developed. Federal funds may not be available for a jail per se but they may be available for a community facility which will include a jail as a component. The mayor of Union Springs and Judge Huffman appointed a county-wide advisory committee which is divided into four working task forces: (1) to survey jail needs, (2) to survey all space needs, (3) to plan for financing, and (4) to inform the public. At this writing the plan is almost on target. Architects are working on plans for a complex to include space for human service agencies, city and county government, public safety, and a combined city-county jail. Financial planning has taken local officials to Washington, D. C. and to a scrutiny of local resources. The planners are trying to put together a package of funding sources that will be both adequate and realistic. There is still a long way to go before success can be claimed, but officials are very optimistic. There are a number of spinoff activities spawned by efforts to solve this community problem. One of these is directly related to the public school system.

Back in April (1980) when the National Institute of Corrections (NIC) conducted a workshop in Bullock County, among the 30 participants was the head of the Criminal Justice Department of Alabama State University (Montgomery). Dr. Nicholas Astone sat through all of the sessions, and some people were not sure why. As the group discussed the jail problem and characteristics of jail inmates were described by the sheriff and court personnel, it became clear that the majority of law-breakers in Bullock County are juveniles and young adults. This fact, combined with the local high school's growing discipline problem, had captured the attention of Dr. Astone. Following the workshop, he met with local county and school officials and offered his services in a survey of student behavior. Members of Dr. Astone's staff visited the Bullock County High School, interviewed students and teachers, fed the information into a computer, analyzed the results, and worked with the principal and his staff in developing a juvenile delinquency prevention program. Still in the planning stages, the project offers a treatment alternative to the traditional suspensions and expulsions ordinarily used as punishment for delinquent behavior.

According to the plan, offenders will be sent to a special classroom for counseling and a continuation of their classwork before stronger measures are taken. Working with the faculty and administration on the plan are the juvenile probation officer and the district judge. The school will also solicit cooperation of parents, help from community agencies (such as Mental Health, a higher education consortium, etc.), and the services of volunteers. Dr. Astone believes this kind of collaboration can lead to positive results in coping with serious juvenile problems.

An Audio-Visual Presentation: How Ya Coming, Bullock County?

The audio-visual presentation is a potpourri of slides for a visual reinforcement of the experiences related. All pictures were made in

Bullock County in recent years, some only a few weeks ago, and none were staged. These are real people and real events.

The music is from an Arthur Fiedler Boston Pops Album of Beatles hits (Mitchelle, Eleanor Rigby, The Fool On The Hill, Penny Lane, and Hey Jude).

The arts and crafts of Bullock County people comprise a story of their own and evidences of some basic art forms are in the visuals.

President John F. Kennedy had much to say about technology and the arts. A quote from him is used to introduce this final portion of THE RURAL EXPERIENCE: BULLOCK COUNTY, U.S.A.

> "We know that science is indispensable - but we also know that science, if divorced from a knowledge of man and of man's ways, can stunt a civilization. And so the educated man reaches out for the experience which the arts alone provide. He wants to explore the side of life which expresses the emotions and embodies values and ideals of beauty. The poet, the artist, the musician, continue the quiet work of centuries, building bridges of experience between people, reminding man of the university of his feelings and desires and despairs, and reminding him that the forces that unite are deeper than those that divide."

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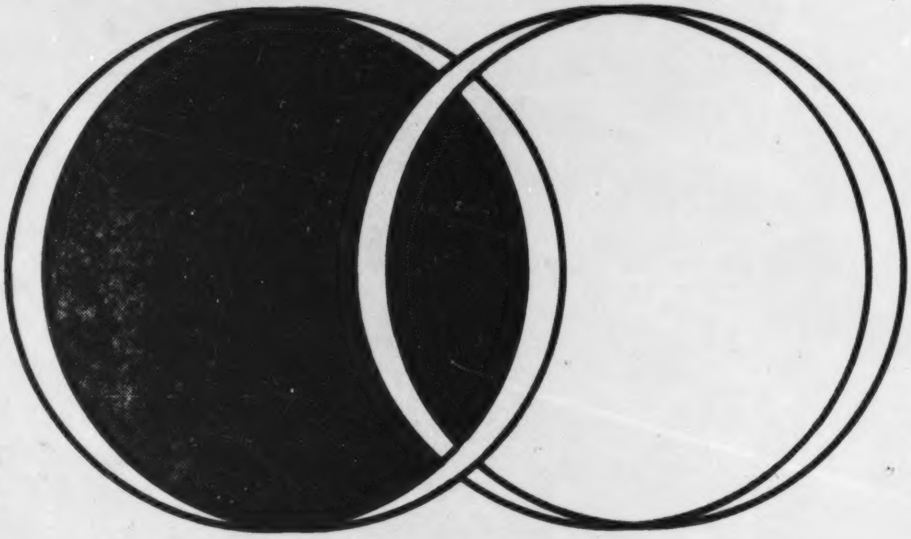

the telecommunications revolution and its impact on education

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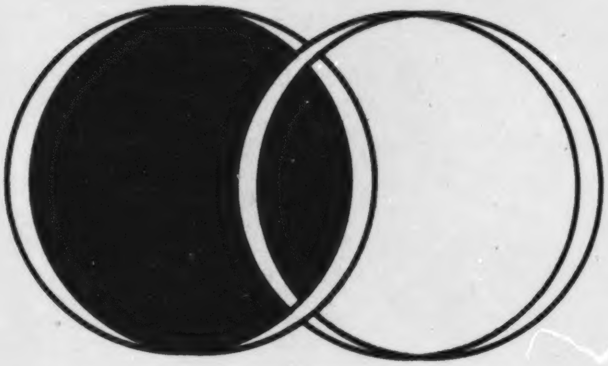


national networks, children's programming and prime time

national networks, children's programming and prime time

JANICE GRETEMEYER

Television is a fast-moving medium. News and sports events are frequently live. Dramas touch on topical subjects, and comedies reflect today's humor and mores. Television is responsive and instantaneous, and these qualities contribute to television's usefulness in our lives. But television also offers information, ideas, and entertainment to expand our understanding and awareness of significant personal and national concerns.

Helping viewers use television to achieve that extra dimension of learning and reflection is the goal of my Office of Community Relations. This ABC effort to enhance the usefulness of the medium involves a range of activities from teachers' guides on special programs to meetings with concerned citizens. Community Relations encompasses many projects which expand the viewers' ability to use television's extra dimension.

Children are a special focus in many of the Community Relations efforts. Working with educators, the Community Relations staff creates background materials for classroom use. We see television as an enriching force and seek to build on the natural interest and curiosity of children in the medium to stimulate learning. Award-winning children's specials, significant dramas, and news events provide sources for creative educational materials.

This commitment of Community Relations to enhance the usefulness of television has led to a variety of other projects, including program alerts to national organizations, dialogues with those concerned about television, and travel to association conferences to find out what viewers think about the medium.

Special shows that offer important historical or personal insights are selected for teachers' guides to help educators use television in the classroom. These background materials, prepared by educational nonprofit organizations, include information on the program and suggestions for classroom activities related to the program.

The emphasis is on helping teachers enable students to explore the issues and ideas presented in the television production. A guide to "Amber Waves" raised questions about the values of the work ethic and the problems of facing death. Book lists, topics for discussion, and ideas for themes are offered in these guides. Other programs for which ABC Community Relations prepared guides include "Roots: The Next Generation," "Friendly Fire," "The 1980 Winter Olympics," "The Return of the King," "The 1980 Elections," John Steinbeck's "East of Eden," and "Masada."

The "ABC Afterschool Specials" and "ABC Weekend Specials" are award-winning programs created especially for our children's audience. Whether the topic is adolescence as in "Where Do Teenagers Come From?" or an adaptation of Edgar Allen Poe's "The Gold Bug," these programs provide opportunities to encourage reading and discussion. We provide study guides on these series of programs to teachers nationwide.

Additionally, in response to requests from librarians, ABC initiated a series of monthly reports during the school year on the two series. These mailings, which began in 1978, help encourage reading and discussion of the particular book or subject related to the program.

The materials include a display poster, plot descriptions, author biography, and bibliography which are distributed to elementary and secondary school librarians associated with the American Library Association.

More than 1,500 librarians and educators have written letters of appreciation to ABC for providing this classroom resource. And publications, such as The Reading Teacher and The Journal of Reading, have mentioned this ABC educational effort.

Video technology is increasingly being utilized in schools. Using video material in the classroom is the goal of a cooperative project of ABC and the National Education Association. Through this unique effort, elementary schools nationwide would receive a video service that is designed to assist the teachers of fourth, fifth, and sixth grades achieve curriculum objectives. This project is called ABC/NEA School disc.

ABC Video Enterprises plans to produce and supply approximately 20 hours of video materials - one hour every two weeks - during the school year to schools or school district subscribers. Each disc will contain a number of separate video programs. Elements will include current events, which will be produced by ABC News, social studies, language skills, science, and the humanities.

The venture is designed to enhance the learning process through the creative use of video materials and to bring an enormous amount of enriching material to our national system of education. Although the project will use the newest communication technology, the teacher continues to be the central focus in the classroom. The aim of this collaborative effort is to enable the teacher to call upon technology to stimulate the learning process.

Children enjoy television, and we hope to expand the usefulness of the medium for them by providing teachers with supporting materials. Television provides a network of communication, but it can also be a tool to help children learn and appreciate the world around them.

But it is not just children who can gain more from television by purposeful viewing; the same is also true for adults. Whether through program alerts or teachers' guides or personal conversations, our goal at ABC is to expand our viewers' awareness and appreciation of television.

nbc — we're working for children

ELLEN RODMAN

Television is the most powerful medium in the history of mankind. It has brought a closeup view of the world to almost every household in America. And it has a special responsibility to its young viewers.

The National Broadcasting Company has a long and continuing history of responding to the needs of children, beginning in 1952 with the highly acclaimed "Ding Dong School." In expanding its commitment to the youth of the nation, NBC chose 1979 for a company-wide effort to improve and increase its services to young people.

NBC committed the resources of the entire company to create the most outstanding programs and services possible for its young viewers.

This commitment involved not only the children's programming department, but the NBC News and Sports Divisions, as well as the NBC owned television stations. All of these areas combined their expertise to provide NBC with the creative and production support vital to produce quality programs concerned with children and the process of growing up.

NBC also consults regularly with outside sources. Since 1973, a staff of social psychologists has been assisting NBC in maintaining guidelines for depiction of pro-social values in any program for children. These guidelines are updated regularly to address the problems faced by young people in an ever-changing world. NBC also explores new programming directions with parents and educators, as well as children themselves.

The results of these efforts have produced the "Hot Hero Sandwich," a series to entertain as well as educate adolescents about coping with a variety of inner feelings and questions about the process of growing up; ask NBC News, sixty second news features of special interest to young people; Time Out, a series of seventy-five second spots promoting physical fitness, health and nutrition; and public service announcements that encourage children to develop good eating habits for NBC affiliates.

Since 1975 NBC has presented "Special Treats," one hour dramas once each month during the school year in the late afternoon. The programs are aimed at children between the ages of eight and fourteen and are designed to show a young person that many of his first experiences in dealing with adult life are not unique.

The Parent Participation TV Workshops began on a pilot basis in 1976 and have been highly successful. At the workshops informal viewing/discussion groups organized by schools, community groups, or religious organizations view a lead-in television program depicting a sensitive topic and then have an opportunity to discuss and understand family members attitudes and feelings. NBC hopes that these workshops, combined with quality television programming, result in better communication between parent and child.

In 1979 NBC News presented "Reading, Writing and Reefer," a documentary exploring the widespread use of marijuana among eight to sixteen year olds. The documentary was made available free, along with NBC produced study guides, to any nonprofit, educational group. This unprecedented offer enabled more than 3,000 schools and colleges across the country to tape the programs during the rebroadcast, for later use in the classroom. Because of the great interest in this offer, NBC will look for other opportunities to undertake similar projects.

Many evening programs can be of interest and value to children - if they have proper supervision. NBC produces study guides for many of its special Prime Time broadcasts. These are available to parents and teachers to help them assist younger viewers to better understand and enjoy these programs.

Television is only 30 years old, but in that time it has become a major influence in the lives of people for all ages. We are still learning about television's potential as a medium for both entertainment and education. Because the potential is so enormous, NBC encourages and invites you to join with us to promote a shared interest and understanding that will not only allow television to do its best for all our children, but will also increase better communication between adults and children.

Audio-visual presentation viewed expanding NBC philosophy and activities for children.

national networks, children's programming and prime time

CHARLIE SMITH

I am from a production house. We produce software for air. We have no real affiliation with anyone other than we are aired over public broadcasting. This makes us a little bit different from a network structure, no better, just different.

The Children's Television Workshop aired in 1969. Its purpose was simple, to educate that rich, rich material coming toward the school system, the preschool child. It was an experimental program. No one believed we would be on the air after 26 weeks. We knew that we were trying to be there, but it was not our intent to be on forever and ever. In 1980 we have been on for 11 years. If we had to go back, we probably would do things slightly different but not much, in terms of how preschoolers are to be treated. The Children's Television Workshop is concerned that in our society some shop like ours continues to exist for this reason.

Television is the most believable of the technology at the moment. It's in place and operating. You cannot function in this society, as we are now constituted, without television. It is a hard fact of life. It is not easy for administrative people to grasp that, because it means putting hardware, televisions, in place in schools.

The preschool child, psychologists tell us, is probably the most productive in terms of human learning. Nobody in our country on a national basis had bothered to do anything with that. In terms of children's programming on the air there are a lot of good programs, but in terms of working as an educational attitude with children there's not much.

When adults name children's programs, we hear the magic word "Sesame Street," of course, and other children's programs such as "Kids Are People Too," "Zoom," "Captain Kangaroo," "Make A Wish," Animals, Animals, Animals." What we really do as adults is think about it from our viewpoint. These are shows that were designed by us. Now let me name some children's television shows for you, "MASH," "Charlie's Angels," "Kojak," "Eight Is Enough." Understand me, I am not criticizing anything. I am just saying the actual facts are that these are children's shows too. If we don't get on track, we will go down the road thinking only "Sesame Street" and those things are for children.

What becomes important for those of us in the business and for you, the adult charged with responsibility, is to become involved in the total media. This is important and necessary. Programming the software is critical. Adults have to quit fighting about public and private television. They exist, but in terms of television it serves no real purpose.

Public television is alluded to in such a way that maybe it's better than the private. It is not true. There are some brilliant and wonderful things done in the name of public television of which "Sesame Street," "Nova" and a lot of other things are a part.

How many of you like "Mr. Rogers?" Why do you like it? "To a certain kind of child at a certain stage, Mr. Rogers is a very good friend." I always like to ask these questions when I travel. You know what is interesting? The answer in this particular group came from a male. Usually, the answer comes from females and they say exactly what he said. It is always to the child he is a friend. He never speaks down to the child, but is always at their level. More importantly, which tells you something important, he speaks in a soft voice, never raises his voice, never appears to get angry and those kinds of things. In essence, wouldn't it be nice if all fathers spoke that way? Most fathers do not. We thunder from the mountain. We are macho. We come home and we raise ____. Well, you know. Wouldn't it be nice if just for a day males were like Mr. Rogers and Captain Kangaroo?

How many of you watch "Captain Kangaroo?" You should watch him for no other reason than that the networks that come under consistent fire from us for not doing this or that or whatever gave a commitment many, many years ago to this show. Before all of the educators and mothers and everybody got their act together, they were out there with Captain Kangaroo. I have seen it improve steadily, making the kind of adjustments that have to be made in terms of new audiences. So don't leave here with your axes in your hand chopping up networks, especially on children's shows because networks have made a commitment.

All our company wants you to do is to expose your preschool child to "Sesame Street." It is not magical in itself; it requires an adult to be with the child. Hopefully, you will give children that kind of exposure. By the time children come to school, and the schools are now gearing up with these new kinds of electronic attitudes, the teachers will have a better perception of children.

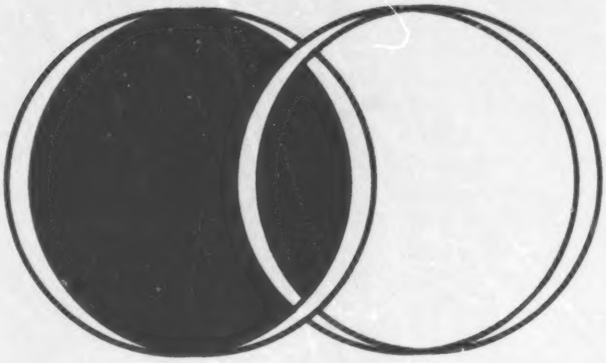
One of the tragedies of the early days, when television first went on, is that so many teachers were caught unaware that television was popular in the home. We all know that you have three or four television sets in the home, closer to three and a half, and that they are on six to eight hours a day. They are never off. They are constantly going, good or bad. It is a fact of life. In a society that prides itself in terms of technology, how we measure the kind of effect television is having on us, we better, at least, know what is out there to be seen.

The funds for Children's Television Workshop come from the public and private sections. We are a product of something we thought you wanted and needed and, for the most part, you have accepted. It is interesting that the kinds of things we do best are things that deal with children. Whenever, or for whatever reasons, we stray to adult programming, we have lots of turkeys, as they are called in the business, for some reason. Now, I think, we need to learn to keep our act more with children.

Also, keep in mind that we are on national air. We have to think of a national audience that sweeps from the rockbound coast of Maine to the sunkissed shore of California. We have to be concerned with this because we live in a country that is diverse not only in its ethnic attitudes, but geographically. This has to be taken into consideration. One of the things we have been slapped with is the fact that we were an urban show reaching children who were not urban. They were in the urban mystique but they did not have trash on the street like that at home. All of those things are like that in the city. So we learned how we have to cope with that.

We are here to serve you in any kind of capacity that we can as a company. As people with authority you have access to us by writing us. Obviously, we listen to our audience as we have to, and if you write to us, we'll listen to you. So write any time.

Ten minutes of some bits our programs will be shown now.



television, values and teaching

television, values and teaching

ANTHONY PRETE

I am going to discuss general television, specifically broadcast television, both commercial and public. The focus will be mostly on television as a visual medium rather than on the content of television.

I heard a story sometime ago of a young boy who believed that lakes were formed by giants who walked the earth leaving large footprints which were then filled in by rain. The youngster was taken aside by a teacher who explained the factual basis of lake formation. The child listened carefully and nodded in agreement as the teacher talked about land masses and glaciers and erosion and so forth. Sometime later the teacher started to determine how effective the lesson had been and asked how lakes were formed. The boy explained, "Well you see, there were these giants." I tell this story to illustrate the difference between information and impact and how one can be more persuasive than the other.

Before further analysis of this topic, I want to establish some parameters. The thoughts I share with you today involve something that I am still investigating, still adjusting, still pondering. They represent a speculation, not a conclusion. I share them because I think they are important to the topic of this conference, "The Future of Education." I hope you will mull them over, decide whether or to what extent they are valid and perhaps achieve an understanding of them that surpasses what I can say in this brief period.

I propose that television is primarily an impact medium and not an information medium. What is the difference between the two? An information medium, as I understand it, communicates specific concrete factual data. An impact medium communicates feeling, awareness and involvement. Let me suggest as examples of information media three common items: a dictionary, a telephone book, and a train schedule. Each is a source to which we go when there is something specific we want to know, the meaning of a word, a forgotten phone number, when we can expect to leave one place and arrive at another. Most of us don't respond emotionally to these sources as we might to a literary or a dramatic work and with good reason. The dictionary is filled with powerful words and expressions, but not much in the way of characterization or action. The phone book has more characters than War and Peace. But again, there is little character development and it lacks a certain poetic expression. The train schedule which is filled with action and movement lacks characters and has a rather predictable plot. Yet, each is a valuable source of information - clear, precise, direct, nonambiguous that tells us what we want to know, easily and quickly.

This same emphasis on information characterizes much of our education. In fact, the way schools function seems to find an analogy in how we might speculate our prehistoric ancestors lived. The first humans, much like the animals around them, probably spent most of their time gathering food. There was little opportunity in the press of hunting or planting and harvesting of crops to reflect on the significance of these and other activities. During quiet times, evenings around the fire perhaps, they might have relived the experiences of the day. Maybe, they even recreated them imaginatively and reflected what they might mean. Out of this reflection came the traits that are most characteristically human, things like perception of pattern, formulation of principles, establishment of ethical standards and planning for a life less tied to survival and more appropriate for human fulfillment. Education today is mostly a food-gathering operation; though the food now is not animals and plants, it's facts and figures. None can deny that these are necessary for physical survival. We must ask whether they still want the lofty pedestal on which we seemed to have placed them. In addition to foraging for facts, we need the opportunity to reflect on our experiences, to look at how they are influencing us, to explore and evaluate our response to them. Each day thousands of impressions are hurled at us. Until we become skilled in handling them, we will be incapable, I fear, of rising above the mundane demands of food and shelter. Indeed, we may even find these simple necessities impossible to fulfill. Reflection on experience is what characterizes us as a species. Schools need to provide the skills for handling these experiences, for understanding them and what they are eliciting from us and how we are to respond. In short, schools need to help students learn to deal with impact, not just information.

Television is accelerating this need. Television is aimed at our literature and arts, at engaging our attention, not at providing factual information. It is obviously a strictly entertainment program which seems to make us laugh or cry or appeal to our sensitivities or engage our curiosity. Even the news and documentary formats are not intended to inform us, as much as they are to have an impact on us. Walter Cronkite recently said, "The television news can only provide headlines." The purpose of the headline is to grab our attention, not to give all the facts. John Chancellor was quoted in Time Magazine last February as saying, "Television is good at the transmission of experiences. Print is better at the transmission of facts." The creator and producer of the Nova series and now the producer of the Odyssey documentaries described his work this way in the New York Times last April, "I want to get something into your head that will cause you to begin your own searching. I do not wish to instruct you. I just want to suggest, to tell you a story that will cause you to begin your own investigation." What these men are saying, I think, many educators fail to realize. Instead, these educators approach television, and this is also true of film, with an attitude of what did you learn from it? They are interested in finding facts. I heard a while ago of a media specialist who questioned the purchase of a series of Cousteau films because he said, "They don't contain any technical terms or any scientific applications." In short, they were not instructional. And it's true. You won't learn much factual information from a Cousteau film. You will come away with a heightened awe and respect for the oceans. The reason is that film like television is an impact medium. It shapes our attitudes much more than it shapes our intellect.

Let's take a closer look at the difference between information and impact. Information is direct and specific. It fills a practical need. The interest already exists and we want to know more about something. Impact seeks to create this need, to create this interest, whether it's the limited goal of engaging our attention for a brief period or the long-range goal of spurring us to further investigation. What we take away from impact is awareness, not comprehension. Our emotions have been engaged, not our intellects. It is not that we know more because of the impact, but we realize more. I suspect one of the reasons television is so popular is that it does not deal in information. I don't mean this as a criticism because obviously you can say the same thing about literature or art. People are already struggling under what has been labeled an information overload. I don't think it's just the volume of information that oppresses us. We are overwhelmed by the nature of that information. There are so many conflicting reports, so many contradictory statements, that our ability to shift through and strain out the truth from falsehood is just beyond limits. Who among us really knows whether a diet of processed food is nourishing us or poisioning us? Whether technology is ushering in a broad expanse of unprecedented freedom and fulfillment or whose narrow confines are slowly closing in around us? Every argument for something seems to have an equally cogent argument against. Factual information has become a scrambled meshwork. The more we get into it, the more entangled we become. Not only is it hard to know what to believe, but the way information on which we seek to make judgments keeps shifting under our feet. So it doesn't surprise me that people turn to television for an escape from this avalanche of information.

Television does more than provide a respite. It provides a solution, at least a suggestion of a solution, and I think people are grabbing on to it. Here is what I mean. Because its emphasis is on persuasion rather than information, television focuses our attention on images rather than on facts, on how something appears rather than how it might actually be. The food we eat, the car we drive, the candidate we vote for, all are influenced by image. The product or person who wins our allegiance is the one whose image has the greater impact on us. Now it's quite fashionable to defy all of this and certainly there are negative aspects to it. Whether or not we agree with this method of moving people, we cannot ignore the reality of it. Yet, that is precisely what the majority of educators are doing. They continue to emphasize the accumulation of factual data when what students need, what we all need, is the ability to cope with images, to cope with impact. The distinction between information and impact and television's emphasis on the latter rather than the former raises the question of truth vs. fiction, or rather truth vs. falsehood.

Television documentaries are criticized from time to time as distorting the truth. It began with "Roots," it was repeated with "Holocaust" and it came up again less strongly with "Shogun." Perhaps it's true, perhaps these programs did contain factual inaccuracies but if, as I maintain, the purpose of television is to provide impact and not information, than these areas trail in significance when compared with the awareness that these programs generated. Each of them captured our attention, resonated in our consciousness and had a profound effect on human awareness. What they taught us, if you will, was an important lesson about the human condition, lessons of cruelty and courage, of despair and determination and passion and perilousness. I doubt that many people who viewed "Holocaust" could have recited the historical facts of the Nazi persecution of the Jews. Everyone who saw the series felt a deep awareness and sensitivity about the atrocities that we humans can inflict on each other.

Still the question must be asked, which is more important, strict adherence to facts or insightedness to the significance of the facts? If you go through human history, you find that much greater emphasis was placed on significance. This is the orientation of folk tales, mythologies, world history. Bruno Bettelheim in his book, The Uses of Enchantment, made the point that children derive more insight from fairy tales than from factual accounts. Remember the giants who made the lakes? I cannot help but feel that this approach in quest for significance is a more deeply human characteristic than the search for factual accuracy and that what television often captures and capitalizes on is less the lowest common denominator than it is the deepest common element.

Having said all that however, I must note the danger that lies in excusing factual inaccuracy for the sake of impact. The reason that this is dangerous is that the distortion of truth in order to create an impression is what characterizes propaganda and this can run again from a twisted national ideology to a titilating toothpaste commercial. So, we need to be wary in situations where impact supersedes information. We also need to exercise judgment in that particular situation as to which is the greater evil. Cold dispassionate logic has produced as many monstrosities in human history as unbridled emotion.

I must stress that in no way am I advocating an abandonment of an emphasis on information in education. Even from the standpoint of impact, information is vital. Information is the raw material out of which impact is created. It is the basis by which impact is evaluated. It is the wellspring of action. Impact evokes a sense of need. Without prior information impact can be shallow and deceiving. Without subsequent information impact can be empty and frustrating. While impact devoid of information runs the risk of being leading and destructive, information without impact is in danger of being meaningless and sterile. So, I think it is important to preserve the information orientation of education, but not to the exclusion that seems to be the case in most schools today of any attention to impact. Rather, facts can be used to help students make sense of their experiences, to provide a context, a climate and a criterion for coping with impact. The emphasis, and here is where I think a shift is needed, must be on impact since this is the dominant characteristic of our most pervasive communications media.

Once again let me stress I am not making a valuative judgment concerning television as an impact medium, whether this is good or bad. What I am saying is that we must recognize that this is going on, that it shows every sign of continuing and increasing, and that, therefore, schools should be exploring its significance, the extent to which it is affecting us, its ramifications, and whether education should be doing anything new or different as a result of this. My own judgment is that its significance is a mess. It is changing the way we think, bringing us beyond the boundaries of rational, objective and verifiable fact and into the realm of feeling, intuition, gut reaction and impression. Moreover, television is doing this on a wider scale than any other communications media in human history. It is present in 98 percent of the homes in this country; more homes have TV sets than inside plumbing. Estimates of the average number of hours the set is on ranges from four-seven hours and higher per day with a spinoff effect in which television vocabulary, customs and characters permeate our lives and reinforce our attachment to the medium that is their source. All these underscore the extent to which television is a formative influence in our culture.

I argue neither for the complacent acceptance of this situation nor for militant opposition to it. Each of us must find our place somewhere on the continuum between those two extremes. I do argue that we cannot ignore this because of its pervasiveness, because it is already influencing students, all of us, and that we must begin to deal with it. We must acknowledge its reality, recognize that it is changing the way we are acting. We must ask ourselves whether the schools should be exploring this medium, seeking to understand how it works and why, learning to utilize it, reinforcing its strengths and counteracting its weaknesses. I am proposing an expansion of education's horizon, not a rejection. We must acknowledge and honor those alternative modes of thinking and judging and deciding, not because they are better than the rational, cognitive linear modes but because, in point of fact, they are the modes that people are using.

If I was wearing the elitest form of education, there might be some justification for a purely defensive posture when faced with these new thinking modes television is generating. Our education system is, and always has been, aimed at providing all students with the tools they will need to cope with the future as best as we can determine it. We must look to that future, as well as the present, to determine our emphasis and orientation. We must ask ourselves what will be the dominant influence in people's lives and how can we help them cope with these influences, to capitalize them and incorporate them and become more human through them. That, in my understanding, is a challenge faced here at the conference and it's the challenge, I believe, all education is facing. To ignore or sidestep or become merely defensive about the interest of television is, in my judgment, to turn our back on challenge.

The obvious question to all of this is how. How can education incorporate implications of a medium which emphasizes impact over information? I don't have any magical formula answer to that question and I doubt anyone else does. I do have two general guidelines to suggest. One that pertains directly to television and one that encompasses much more.

First, I think we have to come up with a better justification for taking television seriously than the "know your enemy" syndrome. I have heard this in conference after conference that people come together because they love television and want to see it used. Yet, there is kind of a "know your enemy attitude" underlying that. They say even the performance of television seems bent on making excuses, setting narrow limits to what they will endorse, afraid somehow that by saying yes to television, they will be saying no to books, to study, to hard work. This is what Daniel Borstein in the Library of Congress calls the displacive fallacy, the fallacy that every new invention is a conqueror who demands a surrender of its predecessor. Educational framework does not require that we denounce or discard all that has come before, nor is it necessary to affirm that in suggesting the inclusion of television in education we are not giving our stamp of approval to all that appears on television. Those who encourage the use of books feel no necessity to disavow in the same breath works of pornography, trash, or poor writing. We know that not everything in print is worthwhile. Why must we be so hasty to emphasize that not everything on television is worthwhile? Even those who encourage television often limit their recommendations to specials, documentaries, to shows that have some educational tie-in. Is that really all television has to offer education? I can only speak from my own experience, but I have been staggered by the depth of human drama and insight captured in shows like "MASH," "Barney Miller," "Lou Grant," "Little House on the Prairie," "SOAP," which I initially disdained for its melodramatic formula. I have come to respect it for broaching sensitively and insightfully a wide range of human emotions and concerns. There are times when watching "SOAP" that just wipe me out. You may respond, the plots are so contrived. You are right, they are. Given the length of most television programs, they have to be contrived. Show me a realistic television program and I'll show you a boring television program. One half hour of my life rebroadcast on prime-time won't draw a dozen viewers; I mean I won't even watch it. It is precisely television's ability to telescope and encapsulate life that make its programs interesting and engaging. As I said before, I intend no blanket endorsement of everything on television, nor do I think it necessary. I do think we could be a little more realistic in our expectations. If nothing else, it would make our criticism less elitist and more credible. For those critics who decry the fact that television deals with fantasy and not reality, I answer with a marvelous quote I found just yesterday in the paper from Albert Einstein who said, "The gift of fantasy has meant more to me than my talent for absorbing positive knowledge."

My second suggestion, in addition to changing our attitude toward television or defensiveness about it, is that we need to return to the humanities in education, to literature and art, music. Why the humanities? Because like television they are impact media, intended to engage our interest and awareness rather than simply fill our minds with facts. I love Moby Dick. Those four chapters on the bone structure of the white whale just didn't do anything for me. The humanities are intended to elicit a response rather than just add to our store of data. They offer individual interpretations rather than conformity to a predetermined standard. In short, the humanities provide an opportunity to exercise the kinds of skills we need to cope with the impact of television.

The study of the humanities should be an active process, not just passive exposure. I see a need for more individualized effort, more discussion, more reaction and response because that's what we are going to have to do with television. I see a need for more of what one fellow calls open system thinking in which options are explored and evaluated instead of closed system thinking in which the emphasis is on limitation and correctness. I am here to sell a book. It's called The Humanities in American Life and I recommend it highly. In the context of what we are discussing, there are some marvelous statements in this book. For example, "The humanities presumed particular methods of expression and inquiry - language, dialogue, reflection, imagination, and metaphor. In the humanities the aims of these activities of mind are not geometric proof and quantitative measure, but rather insight, perspective, critical understanding, discriminations and creativity. These aims are not unique to the humanities but are found in other fields, the images from the arts and in the new forms of expression created by film, television and computers. No matter how large their circle, however, the humanities remain dedicated to the discipline and development of verbal, perceptual and imaginative skills needed to understand experience."

As part of this reemphasis on the humanities, I think schools should pay more attention to the vehicle of visual and auditory communication. The two modes that come together in television are also present in films. They are present individually in recording and still photography. In fact, if we utilize and explore and evaluate and react to these other media and the resonances they elicit in us, I suspect we could bypass a direct focus on television and still be educating students in the skills they need to live full humane lives in a television dominated culture.

Now I know that media literacy is not the hot topic it used to be and I acknowledge that my magazine, Media and Methods, emphasized this aspect of education. These are not excuses for my position, rather they are explanations. We need to reinstate visual and auditory modes of communication not out of any special interest but because, whether education acknowledges it or not, these are the dominant media that students are experiencing and with which they must learn to deal. We exist in a sound, in a sense environment and the tools are sight and sound. They must be a part of education, not just adjuncts or aids, but substantive components. Education will either capitalize on these communication media or capitulate to them. It cannot wish them away, not while remaining true to its mandate, to prepare the citizens for tomorrow, for a world of tomorrow.

Again, I would like to read briefly from a book. "Our educational institutions must take into account the new learning styles created by the electronic media, habits of mind that have become as natural to many people as the textural and historical modes of thought characteristic of traditional literature culture. Intelligently used, the media can enrich education and increase participation in the humanities. The humanities, in turn, are essential for developing a critical eye for judging what the media offers." I see a need in education for media literacy, for the skills whereby students will experience media, both as receivers and doers. I propose this not as a vaccination, as an exposure to create immunity, but as an emersion so that they will not be frightened by what the media can do, but will understand it, utilize it and benefit from it.

Some years ago in the pages of Media and Methods we ran an interview with Jersie Kazinski in which he used the expression "a nation of videots." It was, I think now, an unfortunate turn of phrase, not because it misrepresented what we might become, but because it is prejudice against what we could become. Like it or not, we have in our classrooms the video generation. We can either shake our heads in dismay over that or we can recognize its reality, its potential, its benefits. The word video, as you may know, means "I see" in Latin. What is contained in the phrase I see? A generation of faceless and mindless spectators, perhaps. If education will take television and video seriously, the phrase will incorporate other meanings, will include understanding, awareness, action, response, involvement. If that happens, we will not need to make any excuses for calling our students and ourselves the video generation.

tv, teachers, and educational policy – before it's too late

DAVID A. ENGLAND

"TV, Teachers, and Educational Policy - Before It's Too Late" is a title in need of some brief explanation. Only after I submitted it, did I begin to consider just what I meant by two parts of the title - the "educational policy" part and the "before it's too late" part.

Getting at just exactly what I would mean by "educational policy" was the more difficult of the two clarifications. I am not and have never been a school administrator. And, since educational policy is a term commonly used by "central office people" with concerns different from my own, I was at a type of disadvantage. So I read a book on the subject, choosing Donna H. Kerr's text, *Educational Policy: Analysis, Structure, and Justification* after consulting with a colleague who writes educational policy manuals for public schools. I felt much better about my own mix of ignorance and confusion after reading Kerr's book, but not because I emerged from my reading with a clear notion of what educational policy is or what that term means. Instead, my reading led me to the conclusion that defining "educational policy" is no easy task, and that what educational policy really *is* continues to be debated.

Kerr's book did help some, though. She clarified, for example, the need to distinguish "policy" from such concepts as plan, program, principle of action, and promise. As to what educational policy *is*, Kerr posited four policy conditions, the first and most important of which was: "Some authorizing agent obligates itself to direct some implementing agent to act in accord with a specified conditional imperative." Now I think I understand what Kerr means, but then I had the advantage of reading the whole book. Let me assure you that, just as the above definition is not complete, definitive, or maybe even clear, this whole business of explaning what is meant by educational policy is pretty tricky. And deep.

So I decided to write my own definition, or, more accurately, to rewrite Kerr's, using my own words: *Educational policies exist when* someone with authority directs someone else in what to do when certain things happen. Implicit in my definition are the points that: A) what the people in authority tell the other people to do is usually written down and agreed upon in advance, at least by the people who wrote it, and B) the people in authority control the money and resources to be utilized at their direction and discretion.

There remains the other part of my title - why did I add that "before it's too late" part? I do not consider myself an alarmist, but the more I think about TV and the more I read about TV and the more evidences I see of television's ubiquitous impact on our culture, the more worried I become. Please understand that I count myself fully aware of TV's vast, unmet, and positive potential. In fact, I generally write and talk about how even TV as it is can be used somewhat constructively. But still I worry. I worry about TV's impact after I reconsider media politics in an election year. And, closer to home, I worry about TV as I watch my daughter sit glassy-eyed before the tube during her one half hour a day with Mr. Rogers. The truth is, sometimes, in my heart of hearts, I really wonder if there is still yet a way we can learn to live - truly live - with television in our lives, before we become a nation which lives its lives through television.

In this regard, I want to share with you one of the most dramatic, prescient, and sobering statements I have ever read about the potential impact of TV. E. B. White once wrote, "I believe that television is going to be the test of the modern world, and that in this new opportunity to see beyond the range of our vision, we shall discover either a new and unbearable disturbance of the general peace or a saving radiance in the sky. We shall stand or fall by television - of that I am quite sure."

E. B. White's vision of how TV might work on and work in our culture was written in 1938. Since I am, at the very least, convinced that we have not yet determined whether we will stand or fall by television, I think about the schools and television with a "before it is too late" mindset. I may chuckle at the drama of my own fears and whistle in the graveyard. But I do worry, and felt obligated to reflect that worry in my title. Besides, a sound of alarm or of impending doom sometimes adds a sense of immediacy to a title.

I offer all of the preceding to explain what I needed to explain to myself about my title. And, if I were wise, I would just stop and sit down now; but I am not, and I won't. Instead, I want to state three very strong and personal convictions I hold about TV, teachers, and educational policy, and then conclude by speaking specifically to educational policy in terms of TV education. Which is to say I will probably get to the body of my speech with about two minutes to go.

STRONG AND PERSONAL CONVICTION NUMBER ONE: I am fundamentally and unalterably convinced that the public schools have an inescapable responsibility to systematically acknowledge the existence of TV in our culture. Whatever personal hopes I might harbor that one day we might learn to use TV more productively are based on my confidence in the public schools. I believed that our nation's teachers could accomplish much toward turning indiscriminate, acritical viewers into discerning, critical viewers of television.

For the past 25 years, the networks have done the educating - CBS, ABC, and NBC have, by default, educated us all in what TV is and how it is to be used. Meanwhile, the schools have moved from an early "wait and see" attitude to a more recent ostrich posture. That is to say, public education has not at all sufficiently responded to the challenges and responsibilities inherent in teaching tomorrow's adults the ways and the means of TV. As I see matters today, that educational responsibility is among the most important challenges facing American schools. But enough of the evangelical rhetoric - let me return to E. B. White's view that we will stand or fall by TV. I will enter into the public record only one more time that what is or is not done in the schools will decide whether we unlock TV's vast, positive potential or allow ourselves to become a nation of videots. That's VIDEOTS, a haunting term coined by Jerzy Kozinski in Media and Methods.

STRONG AND VERY PERSONAL CONVICTION NUMBER TWO: As matters now stand, the schools are relatively powerless and incapable of meeting the challenges of TV. In my preceding statements of what the schools might do and of what I feel they must do, I was not speaking with past accomplishments in TV education in mind. Rather, I was thinking in terms of how things might be. I will not elaborate on this second conviction, because I use it only as a transition to the third point I want to make. But my message to you at this point is that, as matters now stand, teachers not only are not doing the job, teachers cannot do the job in television education.

STRONG AND VERY PERSONAL CONVICTION NUMBER THREE: Until school boards and school administrators develop and implement school-wide policies for television education, teachers will not and cannot respond to the challenge of television in - and to - our culture. Let me explain why I believe this is true.

I am a teacher educator, having gone into teacher education during a period in my life when I was perhaps more idealistic and naive. I believed then, and on some days still do now, that the way to make schools better is to make teachers better. And, mostly that is what I try to do with my professional life. But my work in television education has taught me some important lessons, for I have been working like a teacher educator on several fronts in the hopes that I might influence teachers to meet their responsibilities in television education. The lesson I have learned is a product of failure and frustration. A few commited teachers here and there, a few converts if you will, simply are not sufficient. I cannot be satisfied with that, and have realized the very real limits of even my best efforts in teacher education.

A few specific examples will illustrate how I came to believe that my own efforts and those of others in teacher education will ultimately fall short:

Item: In the last year, I have spoken to 26 teachers groups and professional organizations. I have not talked to a single group of school board members, administrators, or school policy makers about television education.

Item: Our university offers a four hour, graduate level course for educators interested in exploring television's impact on education. We have never had a principal, supervisor, or other central office administrator enroll in the five years we have offered the course.

Item: I was talking to a group of teachers recently about the uses of videotape recorders in the classroom. A teacher raised her hand and said, "My room has no electrical outlets which work."

Item: I had planned for one year a well advertised three day workshop as part of this year's NCTE Conference in Cincinnati. The workshop, entitled, "TV and the Language Arts - Activating Potential in Both Arenas" was cancelled because, of the four to five thousand teachers who will attend, only 11 had enrolled for the workshop as of last Monday.

Item: I do not know of a single school system in which television education is part of school policy.

Item: Our university has offered continuing education and in-service training toward developing teachers who understand and confront the TV reality in their classrooms to 72 counties and school districts in the last three years. We have been invited to take our message to the schools by three Boards of Education. (Meanwhile, I have done 20 or so school in-services on six to eight other, more basic topics, in the last year. . .)

How do all of these items and tales of woe add up and link together? Well, perhaps my own efforts are too ineffectual, and the word is out that I'm a dull speaker. But my experiences are not unique to me - schools have not, by and large, responded to anyone's efforts to implement television education and TV awareness into the curriculum. I must, then, ask why. And I did. My conclusion was that administrative support for and school policies reflective of TV education in our schools are the missing links.

What we have are a few scattered TV-aware teachers, and a few scattered teacher educators trying to educate more, and a few limited government projects, and a few good efforts by the TV industry, all sort of plugging along, piece-meal fashion, in a concerted but muted, lip-service manner. The sum impact of all these good but pitiably limited efforts is ineffectual, inefficient and inexcusable.

What we do not have and what we most need in television education is awareness and commitment on the part of school administrators and school policy makers. In a word, we need leadership at the public school level by those who can develop and implement school policy toward educating tomorrow's TV audience and TV participant. School policy makers must become aware of and convinced of their power to affect change. Policy makers must become committed to the proposition that TV education will be a priority in the schools.

But again, as is my custom perhaps, I resort too much to rhetoric and to evangelism. I will conclude with outlining three ways in which I believe school policy could begin to reflect a commitment to TV education. School policy toward the establishment of school wide TV education would be built upon three components: teacher education, resource allocation, and ongoing management, administration and evaluation.

First, school policies should specify TV-related in-service and continuing education mandates for all teachers. Teachers must, en masse, become familiar with the resources, strategies, curriculum development potential, and TV programs which can enhance and extend all curriculum areas. We are learning how to use TV well and we are learning how to combat and overcome TV's abuses and the abuses of TV. But not enough teachers are learning enough rapidly enough to keep pace with TV's influence.

Secondly, the allocation of specific funds for TV education and for obtaining TV resources and hardware must be written into school policies. Teachers need materials for their own immediate use and education. And hardware, including TV monitors and videotape recorders, must become budget priorities. Further funds must be allocated for the education of teachers, through in-services, through conferences, and through teachers' participation in curriculum development projects, which encourage utilizing TV, teaching from TV, and teaching about TV. Television education will cost some money. But the alternative - the continuing ignorance of teachers about how TV works and works us over - seems much more expensive, to me.

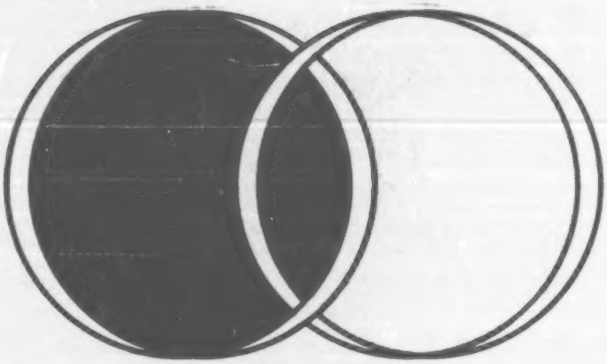
Finally, it will not be enough to merely educate teachers, even if by the thousands, or to merely make necessary funds available - although I would settle, for starters, with those two objectives being met through school policy. But TV education cannot be viewed as a one-shot or compensatory matter. Here, I speak as much of administrative attitude and commitment overtime as to anything related to programs. What happens in the schools in behalf of TV education must be continuously encouraged, supported, monitored, and evaluated. Continuing evaluation is particularly important - just anything that passes for TV education and for the implementation of TV awareness into the curriculum is not what I am advocating. Instead, I believe school policy makers should provide the direction and leadership and constructive criticism of all efforts in the name of TV education. I praise widely much that has been developed and is being done to inform teachers and to provide them with strategies for meeting the challenge of TV. At the same time, I am suspicious of other efforts and motives, some of which I see culminating in dangerous programs in which TV is used only as bait to induce young people to do other school work.

Thus, school policies must evidence a commitment to the careful evaluation and ongoing maintenance of what school leaders lead, and enable, teachers to do with television.

In her discussion of school policy, Kerr speaks of specified, pre-existing conditions which tell us when to implement and develop school policy. When should a school develop policies for TV education? Only when we have evidence that say 80 percent of the school population watches ten or more hours of TV per week. Only when that condition exists, would I argue for school policy on television education. My point is, there are few schools in the country which would not fall under that condition. Rather than suggest that the time for TV education is now, I assure you that the best time was yesterday. I will hope for some progress today, for I do fear tomorrow will be too late.

With teachers and administrators proceeding from school policy, we could together have profound and positive effects on the way TV is used and what TV becomes in the next 25 years. Teachers will need administrative support, and administrators must work from established policy. Given that, we might all have reason to be hopeful. Without that, we will despair at TV's control over us in the future.

My case for school policy on TV education rests, if it is not complete. The challenges and the responsibility for educational policy makers remain.



public television and satellite communications

public television and satellite communications

NOFFLET WILLIAMS

I appreciate the opportunity to be here. If there's one thing we can accomplish today, I would like for it to be to take the mystery out of satellite communications, and for all of us to realize that it's a rather simple operation. It works and works well. It is going to become a part of your daily life just as the IBM card with your telephone bill.

At 7:00 this morning, the Appalachian Community Service Network started its broadcast day in Lexington, Kentucky. If you had tuned to channel 4 in your room, as I did, you could have viewed some of the following courses: Freehand Sketching, Personal Finance and Money Management, Teaching the Young Handicapped Child, Introduction to Business, The Growing Years and Strategies in Reading. That broadcast is still on. It will conclude at 5:00 this afternoon when Home Box Office begins its daily broadcast. At 7:00 in the morning you'll be in the position, if you desire, to bypass the Today show, or one of the other morning shows, and actually see our network in your room. We have made special arrangements with the Holiday Inn for the signal to be brought in. It's a good example of the simplicity of trying to make satellite transmissions available to people utilizing existing networks.

Holiday Inns, Inc. is developing HI-NET Communications, Inc. More than 400 Inns will be equipped with receiving dishes to receive Home Box Office and allow the Inns to host national conferences, workshops and seminars. You have an ACSN broadcasting schedule in the packet that you picked up as you came to this session. You can see some of the programs that you might want to view during the day tomorrow. Tomorrow afternoon from 2:00 until 4:00, ACSN will carry live the NASA program on the Voyager spacecraft and its encounter with Saturn. You have been seeing articles in the newspaper about the spacecraft and how near to Saturn it is getting. They are going to relay some pictures back from Saturn with interpretations by NASA. We'll be broadcasting that to the people that are a part of our network. On Thursday night of this week, a workshop will be presented on "Loss, The End or the Beginning." It's designed to assist ministers, health personnel, funeral operators, and other professionals to work more effectively with families that experience loss.

We started broadcasting to cable systems using RCA SATCOM 1 22 and one-half hours a week in October of 1979. In April we expanded to 35 hours a week and in September of this year we expanded to 64 hours a week.

The Appalachian Community Service Network (ACSN) is a national public service network, private and nonprofit. It originally was a part of the Appalachian Regional Commission; it is now a private nonprofit corporation chartered in the District of Columbia, where our headquarters are located. The signal that we broadcast from Lexington can be picked up anywhere in the 48 contiguous states simultaneously. We are in about a half million homes with cable systems at the present time in about 25 of the states. Many new cable systems are being constructed, so I think that within the next 12 months we will be into all 48 states in one or more communities.

Let me emphasize that ACSN does not award degrees, it does not award college or university credit or continuing education credit. It does, however, provide a framework for cooperation. I think that it is one of the most exciting things about what we are trying to do. By providing a national framework for cooperation and continuing to emphasize service to the Appalachian region, we are offering an opportunity for you and other educators in your states to work with us in a number of ways.

ACSN works closely with local colleges and universities, hospitals and educational cooperatives. More and more we'll be working with local education agencies, state departments of education and others. In working together we can take advantage of some very fine instructional materials that already exist throughout the country. For example, the GED series that was developed at KET and the Just Around the Corner series that was developed at Mississippi ETV. You have a series in Maryland on adult education that is designed to train adult education teachers. So you already have materials if they can be distributed effectively and utilized. Educators at the local level can organize the outreach and start solving some of the problems we have.

Just briefly, ACSN is organized in this way. The central office that coordinates and administers the entire operation is located in Washington, D. C. It is headed by a president who is responsible to a Board of Directors. A Vice President for Operations and a Vice President for Programming manage the daily activities. Uplink facilities are located in Lexington, Kentucky. We have a Program Operations Center that is responsible for evaluation, media, instructional design and content. We do not staff content personnel on a regular basis, and I suspect that this is one of the smartest moves that we made.

We reach out to personnel employed by the University of Kentucky, local school systems and to other universities and colleges throughout the country and bring together content expertise as needed. The most important group in the organizational structure is made up of regional directors and state coordinators that work with colleges and universities, hospitals, local school systems and cable systems. The last mile is the most critical element in the whole delivery system.

Let's talk for a moment about the programming for ACSN. Programming is divided into four categories. Please think in terms of instructional packages when I'm talking about these, not in terms of television alone. We have been successful because we have taken advantage of the print media as well as the television. I think the only way we are going to be successful in the future is to continue to use the appropriate media in the instructional packages.

The first category and the largest effort that we make is in telecourses. We devote about 50 percent of our broadcast day to telecourses. The telecourses are designed for freshman and sophomore level undergraduate credit and upper division and graduate credit. The telecourses may be viewed in homes, schools, libraries, churches and community centers. But to a large extent, we anticipate working with the adults who actually do the training in their own homes.

The next category is the professional development category. This includes in-service training for teachers, engineers, nurses, etc. Two of the groups that have been most responsive to us have been volunteer firefighters and emergency medical personnel. There really isn't any group in the higher education community or in the public schools that has assumed responsibility for many of the volunteer groups, but they respond very well to telecommunications. We devote about 25 percent of our time to professional development activities.

Another five percent of our time goes to teleconferencing. We broadcast from AECT conference in Denver earlier in the year and had excellent response; we had people from more than 40 states viewing the program. We also have broadcast from the National Association of Social Workers Conference, the American Nurses Association Conference, and recently from the Mayors Conference in Seattle, Washington. The broadcast included President Carter live and Ronald Reagan and John Anderson on tape. The Cable News Network in Atlanta picked up part of our broadcast and carried it live. I was sitting in a studio and could see the Cable News Network on one television set and our broadcast on the other. It was interesting to see the slight delay as they took the signal into the studio and brought it back out and put labels on it giving us credit for the origination of the broadcast. So we are pleased that we're able to do unique things like that. Only about five percent of our effort goes to teleconferencing, but we think that this is going to become more important in the future.

Our fourth category which takes up about 20 percent of our effort is community service programming. This is programming for the elderly, homemakers, parents, and children. We are working very hard to make this category, which does not involve outreach, an important element within our delivery system.

We have one-way and two-way audio. We can take your phone call and patch you into the broadcast. Everyone on the system can hear you ask your question. How often in your college work did you have a chance to quiz the author of your textbook? On numerous occasions we use a phone patch if the author of a textbook is not available to participate in the interactive seminars. He can answer questions from the students while sitting in his home. We also use the phone patch with people we can't afford to bring in for a special program.

Program selection is based on the needs and interests of citizens in local communities. From the very beginning in 1972 and 1973, we have used needs assessment information to give us guidance in the kinds of activities that we do. If you are not successful at the local level, we are not successful. We are a service organization.

Let's talk for just a moment about why we are moving away from a closed-circuit system. We were delivering a signal in a closed-circuit situation where the antenna was outside a building and it fed a classroom, but we are now trying to serve people in their homes. What has happened since we started this kind of an activity? The growth has been phenomenal.

RCA SATCOM 1 was launched in 1975 with two receiving dishes in the United States. At the present time there are about 3,000 receiving dishes in the United States that can receive signals from satellites. Approximately 25 percent of the homes will be wired by 1981, 50 percent of the homes will be wired by 1985, and about 70 percent of the homes in the United States could be wired profitably. This means that if we can secure channel capacity on the cable systems, the home can become a real learning center. There's much talk about direct broadcast service to homes. I'll just say to you frankly, it's here and now. It's not down the pike.

I attended a farm show in Macon, Georgia a few weeks ago and the people who make the antennas were there. Farmers came by who had been looking at a $150,000 piece of equipment and didn't bat an eye talking about paying $12-14,000 to purchase an antenna. There's going to be less expensive antennas available and people that have a lot of electronic ability can build their own.

ACSN's target is to be in 10,000,000 homes by 1985. This would be about 25 percent of the homes that are wired. We have over half a million subscribers now; we are in negotiation with cable systems that will take us over the million mark. Almost all of the cable system franchises that are being awarded now are being awarded to corporations that include ACSN as one of the 35 channels in their franchise bids. They are interested in including ACSN because it gives them diversity of programming.

How do we secure access to a cable system? We prefer to have an ACSN channel; a channel that is designated just for us. That is not always possible, but on the new 35 channel systems that they're installing, it is possible. The other way to get in is through an education channel that is assigned to a college or a university. In many cases we make arrangements with the college or university to carry the ACSN broadcast and build around our signal. We broadcast 64 hours a week and they may broadcast 125 hours. Metroversity in Louisville, Kentucky is a good example of this. We broadcast 64 hours a week and they expand the week to 120 hours. They have the local colleges and universities organized into a consortium.

The next option is a public access channel. This is a tricky one because the people at the local level with the public access channel are reluctant to use signals from satellites. They have a strong commitment to local programming from the community. About the only way that we can work with the public access channel coordinator is for them to tape selected programs off the network and feed it into their network. In some cases they feed the signal as it is received; in other cases, they tape off the air and use the signal on a tape delay basis. Another way is to go mid-band to a library or a classroom building or to a school building. The signal goes out on the cable system and people do not see it in their homes. It is usually recorded at a local institution.

Let's not forget the receive-only terminals. We have 15 receiving sites where we have a receive-only terminal for serving the local community. We see growth in the number of these sites. We also see colleges and universities, corporations, public schools and homes putting in their own antennas and taping the signal for later use. Some institutions are talking about having their own receiving dish and taking our signal and feeding it into the dormitories. They are starting their own mini-cable network right there on campus.

The network is always looking for quality instructional packages. We only produce about 10-20 percent of our own programming. We rely heavily on the major producers throughout the United States.

In addition to cable system and receive-only terminals, we are excited about the low-powered UHF and VHF systems that the Federal Communications Commission will probably approve. These systems will take the ACSN signal and broadcast it to homes in a 15-mile radius to serve the people in that community.

The tape-delay use of our broadcast is very important. We try to secure copyright clearance from the distributors so that the signal can be taped off the air and used on a tape delay basis.

I think you have one problem you need to work on. Start thinking in terms of crossing county, state and regional lines. You are going to have networks of information that meet the needs of your communities. If you are going to use satellite communications, you are going to have to do it on a nationwide basis or on a regional basis in order to be really cost-effective.

Let me close by saying that one of the things that I'm most excited about is that we are getting education out of the classrooms, and we are putting it into the homes. If you're interested in freehand sketching or personal finance, or any of the courses that I mentioned previously, you can order your books, and view them and learn and you don't have to register at a university if you don't want credit. Now that's exciting to me, because I think this will increase the ability of institutions of higher education to provide information to the general public. You need to get on the bandwagon and learn to coordinate educational activities at the local level and realize the great potential of satellite communications.

public television and satellite communications

VIRGINIA FOX

I got into the business of telecommunications about 15 years ago, in many ways by default, and therefore, I sometimes call myself an educaster now. I would consider myself sexist if I called myself a "broadcaster." To me the technology is a means to an end. That is all it is. Satellites do not mean oop from izzard to me. Broadcasting does not mean ipp from izzard to me. Children learning and adults learning are the business that I am in.

I imagine one of the questions you have is what is SECA? What is the Southern Educational Communications Association? Well, right now I am serving in a capacity in which I represent 16 states, all ten of the states represented by the Southeastern Regional Council have members in my association. They are your counterparts in the public radio and television stations in the South, from Texas and Oklahoma across to Florida, up the East coast to Maryland. Hence, that is why the Council and I are very interested in working more closely together to bring more closely into alignment the work of the public television and radio stations in the South, and the educational means and ends.

Everything at this conference that I would have said in many ways has already been said. Dollars for development are an issue, copyright is an issue. It is all up there in the sky, but until you get it down and used at the local level it is not worth a hoot. The issue of visual literacy is especially important. Television has been around a long time, but not until a year and a half ago the U. S. Office of Education finally got around to putting out some RFPs to give children visual literacy. Why is visual literacy important? Let me ask how many of you can dissect a television program and tell me how it was done? Can you tell whether or not it was fast-editing to make you believe you were seeing one thing when in fact another thing happened? How many of your children in your classroom today, other than the most blatant fantasy, can really tell the difference after they view a television program between fantasy and reality, fact and fiction. Technology created things and real things. As you go for computer literacy, please do not overlook visual literacy. There are people who understand visual literacy because they are teaching and have developed all sorts of handbooks at the primary level, intermediate, secondary, and postsecondary level. There are workshop teams who will come out and give you workbooks and help you lead teachers into how to teach visual literacy. Hardware is not the issue. The technology is there. The issue is the use and the software.

The issue is the use of any technology and the barriers to its implementation, lack of software, high cost, copyright, support services. This requires the involvement of the highest policy makers and managers, school boards, local and state, superintendents, local and state. Unless the Good Housekeeping seal of approval is obtained, you may as well toss it out the window. Having obtained that seal of approval, that legitimacy, unless it has teacher involvement in the selection of material, the scheduling of material, and the decision about how it is going to be implemented in the curriculum, unless there is heavy teacher involvement and supervisory involvement, you may as well chuck it out the window. It has to have both. It is television as a giant meeting-ground of legitimacy from policy makers cutting loose dollars for support services to the decisions by the classroom teacher as to what its use will be to her.

At any rate, what all too often has happened, as I have watched the implementation of television over the years, is that the educational establishment, for some of the reasons that Howard Hitchens said yesterday, fear, teacher fear, has relegated television to enrichment. They have relegated television to enrichment. Then when the state legislature, or the local school board, come to measure it, what do they ask? Are the children's achievement test scores higher? Does a chief policy maker know what you want it to do? Television is a highly responsive medium. It can repeat and repeat the same skill. You can put a kid over in a corner (all educational receivers have a thing for a headset) and they can listen with a headset and view television and be very interactive with the right kind of software. It is there. You decide how you want to use it. If you really do want to use it for enrichment and to take them places they haven't been, it will do that. But define very carefully as you get into its use what you want to to do for your school system. Sit down with your staff and decide what you want it to do, and then what criteria you will apply as your measure of success. Then you have accountability back to your board and back to your taxpayers. You also have some idea as to what you actually want it to do.

Right now, even though we all think satellites are marvelous things, I do not think we have even begun to scratch the surface of what they and fiberoptics and any other number of means of delivery systems are going to do for you. But for at least the next five years broadcast television, as you now know it, will be a primary delivery mechanism in at least nine tenths of this country. There are elements or parts of the country you can get in only by satellite or only by cable. But it is still free, it goes into every home, it goes into every school. All that is required is that you have a rooftop antenna or receiver or something like that. So, as educators you will still want to link up, if you have not already, with the public television stations or station in your area.

My message to you is that software is the issue in television and satellite, software and goals. First goals, then software and programming. And then the last mile. The technicians can take over all the things in-between. Educators must set the goals. Curriculum people must determine what is to be taught, what they want the children to do, what they want them to learn as a result, what behavior they expect, what behavioral change. Then turn it over to a good producer and let the content people work with it. They will give it back to you. But, while they are busy doing that, you have to be concerned. You must have concerned yourself prior to this with aiding your teachers and staff to see what role television is to play in their classrooms, and to be a part of the production process, the development of printware that goes along, because television will not do it alone. You can have printware, you can have slides, you can have any mix of media that you want, and people work with that at the state department of education and local school districts level in helping to effect that. But decide what you want it to do.

I did an interesting thing before I left Kentucky with the Kentucky broadcasters and the State Board of Education. We went all over the state and held seminars with parents. We had a rule that only 51 percent of the audience could be educators, 49 percent actually had to be parents, lay citizens. We told them what commercial broadcasting was doing, what public broadcasting was doing, and said, "Now what do you want it to be doing? What should it be doing?" I was fascinated. I thought they would say back to the basics, like: "We want television to teach our kids to read," or whatever. They didn't say that. They liked the prosocial stuff, the affective stuff that dealt with death, divorce and issues like that. Another interesting thing that they wanted were live events, the real time event that featured young people, excelling and performing in everything from debate to sporting events. That fascinated me.

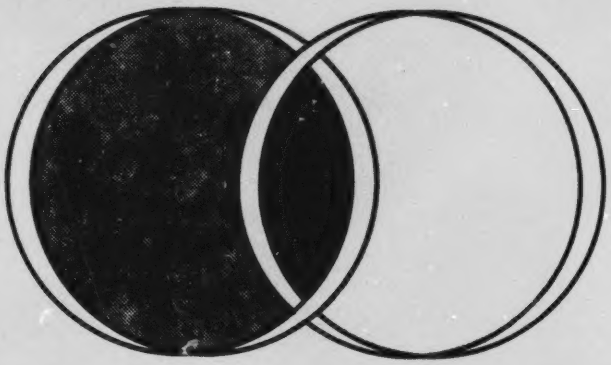
Television can also deal very effectively with controversial issues. We have sat for years and watched teenage pregnancy zoom. Yet the real reason we do not have sex education in the schools is not that we do not have the time in the schools. The real issue is not whether there is sex education, it is who designs the curriculum, who imparts it, all of these sensitive things. There have been places that it has really worked with local communities. It could work with somebody that has a highly controlled situation with local television, in which you bring in the church, you bring in the parent, you bring in all the elements of the community who are concerned. You decide what will and will not be presented. Television can deal with these kinds of issues on a local basis. Educators must get involved in the development of the curriculum and decide what television can do.

The technologies you have heard about have helped in some other ways. Children's Television Workshop and TV Ontario took the Apple computer and they evolved a highly sophisticated program in which there are 40 hand-held things. The children watch an informative television program then they can test the children with preprogrammed questions. The children will tell how much the segment appeals to them, or does not appeal to them. They can ask highly specific pretest and posttest issues to find out whether or not the segment taught what it was intended to teach, did the children also find it interesting enough and compelling enough to hold their attention, would they watch it again or would they recommend it to a friend, would it have those elements. At the same time, you can literally sit and see the care with which instructional television products in this country are developed, the kind of intensive formative evaluation that many of the products go through. You can watch a group of kids with those hand-held things and on another screen read graphs representing the percentage by sex, race, etc., of who understood it, who liked it, etc. Television developers have found out some very fascinating things. This business of race and sex identification that broadcasters and everybody else tries to sweep under the rug, like little girls don't really need to learn from women, or blacks don't really need a black on the screen to identify with. Children's Television Workshop and CTW research shows that there is a high correlation. It is important, it does exist. The Apple computer, the whole unit, with all 40 hand-held things only costs $2,000. And that unit is being used extensively now by many public television entities to begin to do pre-evaluation so that they know whether the product that you get is going to work with your students.

Having done all that if the TV antenna blows off the roof in the school and there isn't a maintenance crew to put it right back up, the teacher loses continuity. You have lost her and those students to television for the rest of the year. If the TV set breaks down, as they do, and there isn't another set available, or it takes two months to get it fixed, you have lost them. If they are totally dependent upon the broadcast schedule, if they do not have access to cable or a recorder or something else, if the broadcaster cannot give you enough repeats of it, you have lost them. Very often people will invest thousands of dollars in television receivers and if they had just added a little bit more money, maybe not buy quite so many receivers, and put in a master antenna system with two or three recorders and a distribution system, they would have gotten so much more use out of it. These kinds of issues need to be looked at.

Also the issue of print support and the issue of teacher training needs to be addressed. More and more, colleges and universities in the South do provide workshops and leadership training in this. The public television stations do. The North Carolina Department of Education and the Georgia State Department of Education have a team of utilization specialists that will come out and help. The same is true in Arkansas. Most of the states, especially where there are large state networks because they grew up primarily to serve instruction, have teams of specialists. But a lot of people are hesitant. In Kentucky, people would call me and say, "Gee, I really hate to ask, but we are having a real tough time implementing television in our district. Would it be too much trouble, I mean, is there anybody." You have a staff there just chomping at the bit. That's what they are paid to do, that's what they are there for. So if you wonder if there is help in your state, call your state department of education, division of media services or just pick up the phone book and see if there's a public television station, especially a state network, located in that area. Just call and say "I need help." Find out if there is somebody who can help you in the utilization of television.

Those are really the issues facing television. Satellites are going to open up so many avenues. The technology is getting very close to being readily available for use. But the critical issue is will the software be there and will it be the kind that you want and need to help your students in your schools?



public libraries and cable television: the rome, georgia, story

public libraries and cable television: the rome, georgia story

DAVID O'KEEFE

The other tracks in this particular section, The Telecommunications Revolution and Its Impact on Education, have been concerned with telecommunications and the use of preproduced materials. We are going to take a slightly different approach and look at the importance of locally produced materials. While Tri-County Regional Library is not directly involved with producing materials for the classroom, we are very involved in the educational process in its broadest terms.

With so much emphasis placed on the development and delivery of predeveloped, preproduced materials to the school system, I fear that the same thing may be allowed to happen to telecommunications that was allowed to happen with television in general in the beginning, i.e., we allowed three or four metropolitan areas to feed us all of our information.

There is a movement around the country to break down the monopoly of the control of the telecommunications industry. It is occurring at all levels in Washington and throughout many states, and Tri-County Regional Library is an example. TCRL TeleProductions at Tri-County Regional Library is a pilot project to determine whether a local community has enough interest, intelligence, and creativity to develop materials specifically for their needs. I think we have proven that they do. Rome is not unique in that fact. Any community that will take the time and effort can play a large role in the development of the educational materials that their children and their community will use.

We at Tri-County got into the production business in 1973 with the purchase of a little black and white camera and a portapack. We have developed through a number of stages, involving ourselves with the cable company, to the point that today we are producing 60 hours a week of programmed information for the community. All of that, we feel, is of an educational nature. We started out with only one program. We developed a second one as the opportunity presented itself. As funds were secured and needs were identified, we developed more and more programming until we reached the point where we are now. We program from 9 in the morning until 9 in the evening, five days a week, with locally-produced programs. All programming is produced by individuals who had absolutely no experience in telecommunications before they came to work for us.

One of the key things I want to point out is that the telecommunications boom is nothing to be afraid of. There is no mystery involved with developing telecommunications materials. All it takes is ingenuity, hard work, and money. The more money you have, the better the end product. I am not saying that it cannot be done very inexpensively. But, as with anything else, if you have money supporting you, you are going to turn out a better end product.

Some of the programs that we produce are used as enrichment programs in the school systems. In Georgia, the main responsibility of the educational television network is the development and dissemination of instructional programming throughout the state. We at Tri-County develop enrichment materials to support the classroom activities, but we do not develop anything of a purely instructional nature.

I am going to show you a tape that will give an example of what we do, but more specifically what can be done on a low budget with some ingenuity and some people who are willing to work very hard. Before I show the tape, I will describe some of our programs because the tape is an excerpt of some of the materials we produce. There is a program called "Find Out" that is purely an informational discovery type of program. Sometimes it deals with subjects related directly to the library; other times it deals with information of general interest or concern to the community. It is an investigative program for enrichment and enlightenment.

We are unique in our area in that we do not have a commercial television station within seventy miles of us. So, over the last five or six years we have taken on the character and characteristics of a local television station. By request from the community we have developed some other types of programs such as: an exercise program called "Shape Up;" a community interest program called "High Spirits;" and a history series called "Looking Back." Also, we do public service announcements for the community that you will see. We do pure delivery of information in the form of a crawl line that continues. We do programs with our local legislators, continuing reports from our legislators for the community. We get involved with community affairs.

We do special programs. You are going to see excerpts from a program we did with the Boy's Club cheerleaders. We did a program with the fire department on a radiation drill. We have a magazine format type program for the senior citizens called "Over 55." It has exercise and activities for the elderly as well as general information concerning their lives. We do a special series of programs called "Look into Our World," that is for and about the handicapped.

We do programming directly with the schools. One program is called "Know and Tell," which is a quiz show patterned after the old college bowl concept for fourth-grade students in the three counties served by our library. There is an elimination, and the participants win prizes just like a quiz show. We do a couple of other children's programs, "Toy Room" for the preschoolers that is primarily an exercise and activity program and "Happily Ever After" for the early school-age child. Programs present ways of dealing with concepts and concerns that they will be facing and do face everyday: love, hate, cheating, that sort of thing. All, we hope, are in a palatable form.

Tape Shown

We are not a line item on the library budget. The library does pay the upkeep of the facility: the utilities, the phone, so forth. Other than that, we operate on what we can generate, through grants, gifts, and contracts. We literally support ourselves. We have a staff of nine that do nothing but video programs. We have trained them. We, of course, tried to hire people with good imaginations and ingenuity. That is about all it takes.

This is not a mystery business by any stretch of the imagination. I am terribly concerned because of the approach and information a number of what I call "grown-ups" in the metropolitan areas are putting out about telecommunications will scare some people away who, I think, definitely should be involved. From the standpoint of control of what is communicated there should be a strong input on local grassroots level. Communities can not sit back and take whatever is fed to them from the metropolitan areas of Washington, New York, Los Angeles and so forth.

None of these programs are going to win an Emmy or an Oscar. I am not at all ashamed of the ingenuity and imagination and creativity in some of them. The type of programs that would be developed and need to be developed by a local community do not have to have the kind of expertise and slickness that we see from the networks. There needs to be a level of quality that is powerful. It is very difficult to make a black and white program presentable or acceptable to the community because we have had color so long.

Short of those kinds of parameters, quite often, a program with individuals that students or the community can recognize as friends or neighbors will have a great deal more impact than one presented by strangers. A study in New Orleans in one of the ghetto areas involved a series done on rape prevention. Some of the programs used local talent, giving them situations and letting them act it out. Other slickly-produced programs in the series were purchased. The people of the ghetto said that they got more out of the programs produced by people in their neighborhoods because they spoke their language and they could understand. The same thing applies to children. This is one aspect to consider in the development of program material at the local level.

Personally, I think the most advantageous aspect of producing television programs on a local level is the opportunity for the students to actually produce programs on their own. First, in a number of studies it has been shown that television production helps students develop a number of skills - reading skills, creative skills, writing, so forth. But more than that, subliminally, by being able to have hands on use of equipment like this, they are going to be prepared for the gigantic use of telecommunications they will have when they become adults. By the time the children who are first graders are grown and have families of their own, telecommunications is literally going to be surrounding them in every conceivable form.

public libraries and cable television: the rome, georgia, story

ANN N. RUSSELL

As you have seen and heard, since 1973 Tri-County Regional Library has been involved in the R&D phase of a very special video project that began in the mind of the library director, Emily Payne, and has evolved into a valuable community service.

In the beginning in 1973, this experimentation with video and libraries was unique. Today in 1980, there are public libraries all across the United States involved in video with various degrees of involvement and various levels of production. We like to think - and in many cases we know, because we have consulted with them directly - that they have profited from our brainstorming days. We have served our profession; therefore, we have served libraries if we stop right now. But we are not about to stop right now. As we begin this new decade of evaluation, I want to share with you some of the ways we have measured the effectiveness of what we have done, some conclusions that we have reached and some indications of what the future might be like for Tri-County Regional Library TeleProductions.

There will always be a need for us as a local community organization as well as an entity in the State Department of Education in Georgia to plan, research, and educate. All are difficult tasks. Planning is really a challenge in a medium like video that changes as rapidly as it does. Leaders of the library profession have a responsibility to consider the implications of using new technologies for public libraries. Also, we have a responsibility as a public library, as a state public telecommunications entity, and as a deliverer of information to research these options for information deliverers, to consider and know about their cost. Also, because we are in public service, we need to know about public funding sources and how to make new developments available to our community.

Planning is a challenge in the public sector also because of its built-in political volatility, if you'll accept an euphemism. Just consider that Tri-County Regional Library is accountable to the State Department of Education, four local school boards, five city commissions, three county commissions, six branch library boards of directors, the Tri-County Library Board of Directors, as well as several other state and federal funding sources. Add to this governance of the FCC, the interest of local cable companies, and the Public Telecommunications Task Force in Georgia, and you see how complicated planning becomes when you are responsible to all these different people.

Planning is also a challenge in the environment of our library service area where people are not familiar with the options offered by telecommunications. You all know by working in your communities and in your work settings that it's a responsibility to educate others. First of all, when you talk about possible funding sources and all the entities to whom you are accountable, you have a vested interest in making sure that they are educated and that they stay informed and excited just like you are. So, you have a responsibility for continuing to educate yourselves, as well as your staffs and communities. Because of the novelty of video, there will be people interested in it for the moment. There are also people who will never be interested in anything technological because they don't understand it and they don't want to take the time to do so. What is needed? I think we would all agree we need the concept and an understanding of video as a communications tool rather than just one more A.V. aid, or one more service that may be nice to have because it's so novel. We must think of it soberly, carefully, and with creativity as a communications tool. This is definitely the philosophy in Tri-County Regional Library. So we will continue with the tasks, all interrelated, of planning, research, and education. We are assisted in this careful planning by our Citizens Advisory Committee.

To help evaluate our first years and to look toward the future, we secured a planning grant from the Corporation for Public Broadcasting. As part of this, we were able to contract with the Applied Communications Networks in California to help us conduct a viewer survey and a communications needs assessment for our area. The first question is, of course: "Is anyone watching?" We were able to find out that indeed they are watching in Rome, Georgia, and that pleased us immensely. We can say to people to whom we are accountable and we can say to the different funding sources, "Yes, we are watched. People really enjoy our programming. People learn from it." But you know that doesn't necessarily speak to people who control purse strings. They like to see some objective evidence. This is what we have been able to provide with the survey results. We learned about our viewing audience. We gathered information about the people who live in our area and received some definite direction for our programming for the future. We were pleased at the number of people who could recall specific titles of program series.

The survey revealed that 21 percent of Rome cable households watch our programming at least once a week. Those of you who are involved in public television know that this is an excellent statistic. It was especially supportive for us to know that they not only watched but also could recall names of series. We were encouraged about the continued use of telecommunications in our library. Librarians are under attack about getting involved in television because librarians are supposed to be traditionally print-oriented. Our book collection has continued to circulate at an increasingly larger rate ever since we have been in video. So we can quickly dispell fears of video replacing books.

It is the commitment of our library that information should be delivered in the manner that is most acceptable and accessible to the people who need it. Therefore, we were encouraged about the medium that we are using - video. Only one interview had to be ended because the person that answered did not have a television set. Also, cable penetration in our area is unusually high because of the terrain. As a matter of fact, the Rome area cable penetration is 70 percent. This fact encourages us that maybe not for every public library but for our public library, video is correct and cable is acceptable because it is not elitist.

The third survey finding that confirms we are in the right medium is that the average TV viewing time on an average weekday during our program hours is four hours a day for these respondents. It is interesting to compare this with 2.1 hours of radio listening and a half hour a day of reading a newspaper. This speaks to us that video is the medium that reaches people and that they use.

Survey results also encouraged our desire to extend telecommunications in our region. Eighty-two percent of the respondents rated as "valuable" the idea of a regional community television network. They want their system interconnected with other systems in the area.

The survey respondents not only knew about our programming but also identified the top three preferences that they wanted to see in future programming. The top request was for health education. Forty-four percent of the respondents said this would be their top preference. The other categories in the top three were discussions and interviews as well as children's programming. The videotape you have just seen demonstrated that we have regularly scheduled interview programs and children's programming. Therefore, this part of the survey encouraged us to continue more of what we have been doing on different topics that are generated by community interest. We were particularly excited about the preference for health education because we may soon become involved in an exciting program in connection with the Appalachian Health Systems Agency that would involve the delivery of health education not only in our three counties but also across 29 counties in Georgia. This project is in the planning stages and will take five to ten years to evolve completely. Therefore, this survey finding was particularly encouraging.

For the future, we have two essentials that have already been identified because of the ever-present funding needs. The first is the need that TCRL TeleProductions will always have to generate revenue with the goal of becoming totally self-supporting. We are not a line item although the library shares part of the cost. With the goal of becoming totally self-supporting, TCRL TeleProductions had recently secured two contracts for productions with the Georgia Department of Human Resources and with an independent banking association. We will also continue to see underwriting of specific programs. For instance, Wendy's Old Fashioned Hamburgers has underwritten a children's program. And, lastly, we will continue grants engineering for the support of program series.

Another essential is the cooperation with government agencies and other information dissemination bodies like ourselves. I mentioned earlier that our project had served as an information-gathering device for other public libraries in other parts of the country. Just like any research, if you read about somebody else's research - what they've done, the problems they encountered, the successes that they had - then you don't have to make the same mistakes. You can perhaps look forward to the same successes, maybe even more. We have consulted with Georgia's Dekalb County Public Library System and the Irving, Texas, Public Library System. I would especially like to call to your attention Aurora, Colorado, and Paterson, New Jersey. These are library systems that had the advantage of being involved in video planning before cable franchises were awarded in their communities. They have commitments from cable companies that are very supportive of public library services. Public libraries must continue to seek the cooperation of schools, colleges, departments of family and children's services, as well as area planning and development agencies. These are important people to have on your side because they know the regional needs and ways you can serve. Also, they are always planning ahead and we want to make sure that public libraries are included.

An unknown for us at this point is what the Georgia legislature will do with recommendations from the Governor's Telecommunications Task Force that has just ended its work. The final report is still being edited. Therefore, we don't know how the eventual legislation might impact our work in public telecommunications in Georgia.

TCRL TeleProduction is in the first phase of a long-range project that will extend video services to other parts of our region. This project is funded by the National Telecommunications and Information Administration in the Department of Commerce. At present, we have the capability of videotaping in the Rome studios and at remote locations. Using portable equipment, meetings and other events can be videotaped and cablecast at a later time. The NTIA project will enable us to have a portable microwave transmitting unit on a mobile studio so that events can be cablecast live by the cable company in the community where the equipment is being used. This extension of services is in line with the philosophy of expanding grass roots telecommunications which Tri-County Regional Library endorses.

The potential of the vidoedisc for production and random access of information has been mentioned by several speakers at this conference. At Tri-County Regional Library, our collection of videodiscs and the videodisc player are used for extension programs only. This equipment is used regularly by members of the staff for program planning but none of the items circulate to library patrons.

In closing, I want to emphasize the potential use of video by public libraries as a way of addressing the problems caused by the rising costs of energy and the need of people for increased amounts of information. Not only locally originated programming but also a variety of information services can be made available by cable TV. Increased use of telecommunications can save vital energy resources and, at the same time, provide the people of this country with the information they need for decision making and problem-solving.

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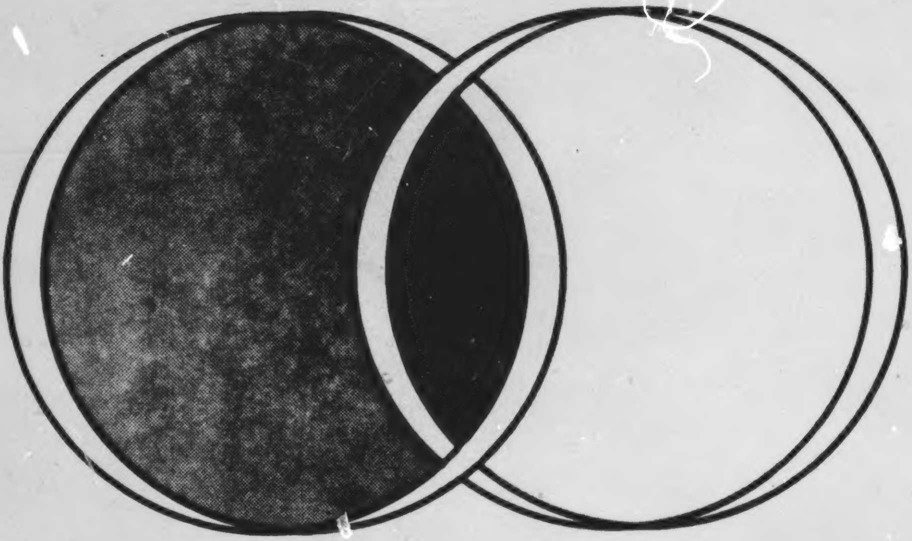

education and the marketplace in transition

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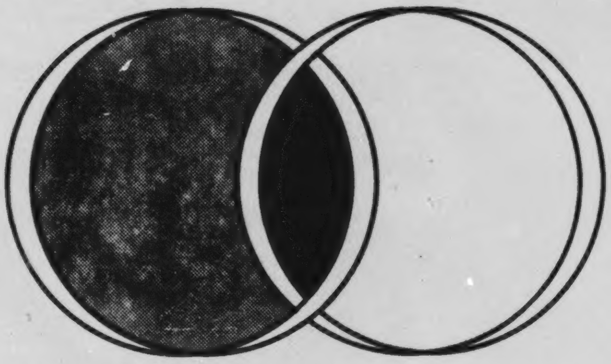


the commission on the future of the south

the commission on the future of the south

BERNARD L. WEINSTEIN
PAULA BREEN

It is a pleasure for me to be here and I note that your program is called "The Future of Education in the Southeast." We are doing our own futures study through the Southern Growth Policies Board. Most of you probably are familiar with the Southern Growth Policies Board. It is an organization of the Southern states that has been around for almost ten years, mainly concerned with issues of economic development and growth management, Southern cities, and other developments in the Southern region that have a regional and a national focus. Some of you may have seen our publications. We have done a lot of monitoring of growth trends in the South over the last decade.

I was with the Board for two years in their Washington office. One of the things the Board does is information gathering and dissemination in the Washington office about national economic policies and other national policies that affect the Southern region, because our governors are very interested in those kinds of developments.

Once every six years, under the charter of the Southern Growth Policies Board, the organization prepares a statement of regional objectives. The first statement was prepared in 1974, and it was conducted under a mechanism known as the Commission on the Future of the South. 1980 is the second time that the Board is running this activity and it was decided to reconvene the Commission on the Future of the South, or to set up a new one because, I think, there are very few people from the first Commission that are serving on the second Commission. Nonetheless, we do have in place the 1980 Commission on the Future of the South, which is being funded in part by the National Endowment for the Humanities. The Commission has met twice and is supposed to frame some recommendations by February. The Commission consists of appointees from each of the Southern states. Every Southern governor was asked to name a representative to this Commission and in addition there were some at-large members, bringing the total membership on the Commission to, I believe, twenty.

The work of the Commission has been divided into four broad areas: economics, cities, energy and children. All of these areas relate to each other, of course, and there are some other issues that have cropped up. Nonetheless, our work is being framed and conducted in these four program and policy areas. Paula Breen is the Project Director of the Children's Task Force and I am Project Director of the Economics Task Force. We have representatives from each of the Southern states appointed by the governors' offices to the various task forces. Each of these task forces will be preparing reports and making recommendations to the committee as a whole. The commission will consider them, discuss them, I guess vote upon them, adopt some, amend some and reject some. Then the Commission, itself, will make its views known to the world, in February.

Following the issuance of our statement of regional objectives and policy recommendations, we hope to conduct some outreach activities in all of the Southern states. We are trying to get the various state humanities councils to cooperate with us in this activity. Our Chairman, who is David Matthews, former President of the University of Alabama and Secretary of HEW, is very anxious that the report not become a dust-gatherer, but rather, become a live and vital report. In this regard, we are trying very hard to develop some outreach and implementation activities during the spring and summer of 1981. We are hoping to hold a conference in every Southern state.

What Paula and I would like to do today is give you a view of where our respective task forces stand at this point in time, and also make some comments about the nexus between education and children, on the one hand, and economic growth on the other. I am going to turn the mike over to Paula Breen now and she is going to tell you about her task force and has a very fascinating multimedia presentation as well.

Paula Breen: Thank you, Bud, for giving an introduction to the Southern Growth Policies Board, which may be a new entity for many of you. As mentioned, the Board has been around for eight or ten years but the Children's Project is literally and figuratively the "new kid on the block." In 1979, when Governor Hunt of North Carolina was Chairman of the Southern Growth Policies Board, he called for a special focus and special initiative related to Southern children. Our early work focused on trying to establish the connection between the well-being of children in this region and the economic well being of the South. For instance, the extent of dropout, the infant mortality rate, the rate of working mothers, the poverty rate - all these indicators of well-being of children in the South, does in fact have a direct connection to the manpower pool, the tax base and the economic vitality of the region and the future projections for the region. Our task force was appointed in July 1979. We have funding through July 1981 from the Administration for Children, Youth and Families to support our activity.

Let me give you a little bit of background. The task force, first of all, is a very eclectic group. We asked the governors to appoint the policy person in each state who has a broad overview of education and human services issues as they relate to children. Our members include representatives of governors' immediate staff, policy-level people from state human service agencies and several educators. It is a mixed group and I think that helps us in terms of the strength of our task force.

We began with two assumptions. One is that there are unique characteristics of children in this region, and that secondly, some of those unique characteristics would in fact be assets - there are some very positive strengths to growing up Southern - but there are in fact some liabilities. Unfortunately, as you will see from our presentation this morning, the liabilities are a lot easier to chart, graph and gather statistics about. We are still coming to grips with trying to document and describe what we feel and have a strong belief about in terms of the strengths of our region: kinship bonds, small communities, community-based institutions, and a certain cultural tradition that we feel is, in fact, a strength of growing up Southern. In addition, we have tried to focus on the unique characteristics of Southern children in a way that would unmask some of the national trends that we tend to be preoccupied with, in order that we can more accurately describe the condition of children in our region in a manner that policy-makers can respond to in an appropriate sense for our region.

Our first step was to begin to develop some baseline data about children in the South using information collected from existing data sources. We have tried to fashion from the many fragmented, diverse data sources a coherent picture about what is going on with kids in our region. That story, that profile, is what we would like to share with you this morning through our audiovisual presentation. Afterwards, I would like to bring you up-to-date on what the next steps are for our task force.

Audiovisual presentation script: Growing Up in the South

> Like each generation we have been shaped and molded by the process. So much about the South - the beauty of the Southland, the richness of Southern culture, the nurturing of family, the ties of kinship constitute a Southern heritage, a Southern tradition which effects each generation as it grows to maturity. But the South also presents new faces and new forces as the Southern economy changes and expands, as ways of life are altered and as the social structure is transformed.
>
> For each generation of Southern children growing up in the South offers different and unique experiences which shape their futures and ours.

Governor Hunt:

Growing up in the rural South as most of us who are adults did, I knew who I was; I knew where my roots were. I grew up on a dairy and tobacco farm, on land that had been in my family for about 6 generations. I knew all neighbors, Black and White. We worked together getting the crops in; we knew each other; we helped each other. If there was a medical bill, somebody helped get it paid but people didn't go to the doctor very much and a lot of time they didn't go where they need to. I found, shortly after I went back to my home place to live and built my home back on the land, I found that really growing up I had hardly realized how great those problems were. My wife became a reading volunteer in the schools and we had a vocabulary test one day in that 3rd grade classroom. Out of 33 children only 3 were found to be at grade level or above. So all of a sudden in the same school that I had attended - that I had done well in, a lot of other children not so well, but I figured everybody was doing pretty good - it just suddenly hit me full in the face that only 3 out of 33 kids were at grade level or above in this English skill. Something had to be done. What we need to do is make more of our public investment in the early stages of a child's life. We can teach children to read in the public schools if we bring into the public schools children who've had good health care, who've been nourished with good bringing up. If they've been stimulated, their minds have been. If we've done all those things, our children will do great when they get to the public schools. Now before we can convince the county commissioners, and state legislatures, and the Congress to give us more effective programs - some of which may cost more but others may simply need money to be done better - we're going to have to show them exactly what our needs are. And so with the Southern Growth Policies Board, we are trying to document what exactly is that status of our children in the South. We want to know not just about our families, we want to know about all the children. They're all our children. They're going to all either make us great or hold us down. And then once we get this information ... once we find out what the status of children is in the South, then I hope that every single state in the South will move very hard to provide those opportunities for those children. I am absolutely convinced that for every dollar invested in helping little children have a good future that we'll get a payback at least 10 to 1 ... maybe it's 100 to 1.

Narrator:

This is a preliminary report - the initial step in the process of developing baseline data about children in the South.

Much of the data for this report has been collected on a regional basis for the very first time. Not surprisingly collecting this information has revealed a number of data gathering problems, such as gaps in information, surveys from different years, even differences on whether children are defined as under 18 or under 21.

But more important, is what we have been able to learn about how children live in the South, about their families, their health and their education.

This report is a significant first step to provide policy makers with the information they need to Raise A New Generation in the South.

The old South, and the new South - we have used these two phrases to describe the history and character of our region. Today we are also the young South by many measures. The median age in most southern states is younger than the median age in the United States as a whole. Our Southern family includes 19.4 million children under age 18. This 31 percent of our Southern population is a higher percentage than any in other regions. The South is very young: 7.6 percent of the South is under age 5 - again the highest percentage of any region. And future projections indicate that growth in the South will continue to make us even younger compared to the rest of the country.

The birth rate in the South, although declining, is still higher than in any other region. And the South is growing through migration. These new Southerners tend to be young adults with growing families. From 1970 to 1978 migration alone accounted for increases in the school age population in almost every southern state ranging from 1.4 percent in Alabama to 17 percent in Florida. Our newest Southerners. We welcome them to a South that is increasingly healthy for infants. Still, a baby born in the South has a greater likelihood of dying in the 1st year of life than a baby born in any other region. These grim statistics on infant mortality represent the number of infant deaths before 1 year of age per 1000 live births.

The figures are even more striking for non-white babies, especially in the South - with nearly 28 deaths per 1000 births.

Risk factors associated with infant mortality such as low birth weight and teenage pregnancy occur more frequently in the South. And although modern medical technology has increased, the survival rate of very tiny infants, these babies and those born to teenage mothers remain at high risk for lifelong handicapping conditions. In fact, estimates of the handicapped population indicate that the South has a slightly higher percentage of handicapped children.

The family is the fundamental institution in American society. Nowhere is that institution more important or more revered than in the South. Family tradition and the importance of kinship continue as important themes in the contemporary South.

Southern children are more likely to live within walking distance of relatives, and are more often exposed to several generations of their family than children outside the South.

What are some of the characteristics of Southern families? In composition, most are two parent families. More than 80 percent of all children in the South live with their mother and father. Conversely about one child in five lives in a single parent family - a higher percentage than the national figures of one child in six.

Too many Southern families are poor. And Southern children bear a disproportionate burden of America's poverty. Thirty percent of the nation's children live in the South but, it is home to 40 percent of the nation's 10 million poor children - those whose families are below the established poverty level. Among the very poor - those families below 75 percent of the poverty level - the figures are even higher. 45 percent of all very poor children live in the South.

Southern society has always honored hard work and today many Southern mothers work outside the home. They work whether they are single parents or whether they live with their husbands. They are working in increasing numbers with the greatest increases among mothers of children under 3. And more of them are working than their counterparts outside the South.

These facts pose some important questions for policy makers concerning such programs as day care. Nearly half - 48.5 percent of all Southern mothers with preschool children work outside the home. This includes about 45 percent of women who live with their husbands and two thirds of the women who head single parent families. In each case, a higher percentage than for women living in other regions of the country.

The picture of schools in the South today make a sharp contrast to the scenes of only a few short years ago. We are justifiably proud of the social progress we have made in the South and the schools are a symbol of that progress. But have we been as successful in providing a good education for our children?

Some of the trends are positive. During the past decade Southern students have improved their scores on standardized achievement tests. There has been marked improvement in reading scores. Still, the average test scores of children in the South is below the national mean. In any case these scores merit cautious interpretation. There is some question as to how well standardized test performance correlates with acquired life skills and future success.

There is no question however, that graduation from high school is related to future earnings and success. But Southern children begin with a historical disadvantage in their efforts to earn a high school diploma. Parental education is known to be a significant factor in the educational attainment, health and income of children and only 58 percent of Southern parents have completed high school compared with 66 percent of the nation's parents as a whole.

Figures on dropouts are a disturbing reflection of the failures of today's students to earn diplomas. An extensive survey in the 1975-76 school year revealed, that for every 100 high school students who earned their diploma - 38.5 percent other Southern children dropped out of the school system. This figure is more than 50 percent higher in the South than outside of it.

The South makes a smaller investment in elementary and secondary education than other regions. Our average per pupil expenditure is less than 3/4 that of the non-South. A look at the source of these funds is revealing - the South gets more per student from the Federal government but invests less state and local tax money in education.

Using Resources for Children:

How do public resources match the needs of Southern children? How effectively are Southern states tapping existing federal programs? Our preliminary analysis of two programs intended to help the neediest children, Aid to Families with Dependent Children and Medicaid, enable us to make some response to these questions but illustrate their complexity.

For example, in 1975 less than 2 million of the South's 4 million poor children received AFDC cash benefits while nationally there were 8 million children enrolled in the program compared with a total of 10 million poor children. But, because AFDC has complex eligibility rules which vary from state to state these figures do not represent a true participation rate for the program. However, they do show that statistically a poor child in the South is less likely to receive income assistance than a poor child in the rest of the country.

We also know that those children who are enrolled get lower benefits in Southern states than in the non-South. The federal government share of the combined AFDC and Food Stamps benefits is between 70 and 96 percent of the cost.

Analysis of Medicaid benefits for children shows similar findings and similar questions. Poor children in the South are less likely to receive Medicaid benefits. Forty percent of the nation's poor children live in the South, but only 22 percent of the child Medicaid recipients are Southern children. And in most southern states the average Medicaid expenditure for each child in 1976 was significantly lower than the $240 per year national average. Still, precise comparisons are confounded by regional differences in eligibility and cost of health care. In future reports we will explore many still unanswered questions in all of these areas. There is still much we need to know. And, we need more uniform, reliable and comparable data to explore the problems of such vulnerable groups as abused children, youthful offenders, children in foster care and children with mental health problems. The future also challenges us to explore influences on childhood that are hard to quantify such as the strength of family and community ties, the quality of our environment, and the Southern cultural tradition.

Governor Riley:

The children of the South are where the future is. That's a trite expression but it's more so in the South than in other areas. It's important because our children, many of them, that have grown up in the South haven't really had a fair shot at life. We were in a system of segregation which we realized was a system that held down the South that brought about problems, that we are still having to deal with correcting. Now that we've gotten integration in process I think we have nothing to hold us back but time and space. We are going to have a great future in the South building upon those kinds of strengths that make us all proud. I would like to see every child that's born in the world and more specifically in the Southland of this country, have what I have called a fair chance. That means good health care, it means nutrition, it means a good education, whatever is necessary to make it possible for people to reach their maximum competence in a free society. Those of us that deal in government and public affairs and public concerns have to deal in a systematic way, have to deal in a very careful accountable way to the public. That's what interests me about children's problems. We've got to have the kind of data, we've got to have the kind of information to know where we're going, so we won't make mistakes in this next generation. The children of the South, if given that fair beginning will certainly show the rest of this country and the rest of the world that we are blessed to live in the garden of Eden of our time.

Let me say that this slide tape is available in a single-screen, easily-transportable, mobile version that does not require all this equipment. We also have a printed report that is basically the print document of this study which provides aggregate regional figures. We will have, very shortly, a more detailed profile that includes state and some local level data, which gives you not only the regional similarities and commonality, but gives you some idea of state differences and some local differences.

We also collaborated on several articles in a recent edition of Southern Exposure, a magazine which is published by the Institute for Southern Studies. I am proud of the article we contributed which is "Childhood in Numbers: A Statistical Profile." I think this document also begins to get at some of the qualitative aspects of growing up Southern, some of the impressionistic, non-data-based issues about growing up in the South. I would urge you to get a copy of this.

The work of the Children's Task Force to date has emphasized regional similarities, the fact that the region does differ on a number of key indicators from the rest of the country. Certainly, the first one that we would underscore is the sheer number of children and the strength of the child population, although the nation and the region as well is aging, in terms of the longevity of our citizens and the median age of residents of the South and the country. The so-called "myth," of a shrinking child population in the rest of the country, simply is not true in the South. During the seventies the number of children under age five decreased by two million throughout the U.S. as a whole but increased slightly in the South; while the child population 0 to 18 from 1970 to 1979 decreased twelve percent in the rest of the country, it decreased only about 2½ percent in the South. So, it is not time for the South to start paring down children's budgets and dismantling children's programs. If there is a key message, that is our first message.

I am very pleased to say that we have the support of a number of governors in this region. That is one of the exciting things about the task force that we access to a broad-based group of generalist policy-makers to carry forth our message.

Our next step in terms of the task force is to begin to formulate some recommendations, programmatic and policy recommendations, on the basis of the profile that we have pulled together. Those recommendations will be made to the Commission on the Future of the South as well as to the Southern Growth Policies Board constituency of state and local leadership. We would really welcome comments and feedback, perhaps after Bud Weinstein has a chance to put all of this into a larger context and framework of economic growth in the South. Bud.

Bud: I have my own media presentation that will pale by comparison with Paula's.

I want to do three things this morning and in fairly quick order. First, run through a very quick profile of Southern economic development over the past decade. Secondly, tell you a bit about our task force and where we are in terms of observations and directions for policy recommendations. And then, third, talk for a little bit about the nexus between education and economic growth - in particular, elementary and secondary education. Let's first run through a brief review of the performance of the Southern economic region during the 1970's.

The South is the most populous region of the nation. This has been true for some time, about one out of three Americans is now a Southerner. During the decade of the seventies, the region's population grew by about nine million persons, or nearly fifteen percent. While the South is not the nation's fastest-growing region in percentage terms, it is certainly the fastest-growing region in terms of absolute numbers. We added, as I said, nine million people.

The region's growth is not evenly distributed. In fact, if you take two states, Florida and Texas, those two states alone accounted for almost half of the region's growth during the 1970's. Florida's population grew by two million, or 31 percent, between 1970 and 1979, while Texas recorded a 2.2 million gain, or a 20 percent. Still, during the 1970s all of the Southern states, with the exception of West Virginia, grew at a rate exceeding that of the nation.

The decade of the seventies also witnessed a dramatic reversal of the population out-migration trends of earlier decades. For example, if you go back to the 1960s, twelve Southern states, excluding Florida and Texas - and one often has to exclude Florida and Texas because those states are so large that they distort the regional data - but if you take Florida and Texas out during the 1960s, the region had net population losses due to out-migration of 1.2 million. Alabama, Mississippi and West Virginia each suffered net losses of over 200,000. During the 1970s those same twelve states gained over a million residents due to net in-migration. For the region as a whole, net in-migration reached four million persons during the 1970s. But again, 67 percent of this growth accrued to Florida and Texas.

The principal origin of migrants to the South is the Northeastern region of the country, followed by the Midwest. Look at the trends between 1970 and 1977. During the first eight years of the decade, 2.2 million Northeasterners moved to the South and incredibly only 73,000 moved the other direction. So, we had a huge net in-migration. The balance with the Midwest was also close to a million. We sent 1.4 million Southerners to the Midwestern region, 2.4 million Midwesterners came to the South. The Southern region trades about evenly with the Western region. But do keep in mind, a lot of this in-migration is accruing to two states ...

...(break in the recording as the tape is turned over)...

...not surprisingly we observe that the South has been predominately urban for a long time. I think it looks like the crossing point occurred in the mid-fifties. The South is predominately an urban region although, significantly, you observe that rural percent seems to be tapering off in the 1970s. You may also note that in recent years the fastest-growing counties in the South and the nation have been nonmetropolitan counties. We may see a stabilization of the South's rural or what is often called "nonmetropolitan" population. Maybe even a slight increase during the 1980s. There are a lot of things going on in terms of agricultural developments, in terms of industrial developments, in locational patterns, that indicate population losses or balance in rural areas may be over.

Can I have the next slide? This map gives you some indication of where the fastest-growing parts of the region are. The darker the red, the faster the population growth rate. We are looking at counties and we are looking at population growth rates in relative terms, in percentage terms. The deeper the red color, the faster the growth. Florida sticks out like a sore thumb, you might say, in the sense that all of Florida is growing extremely rapidly. The fast-growing counties tend to be in and around metropolitan areas.

It is also interesting to note that there is a pattern not dissimilar from what one observes in the Northeast and Midwest, and that is that the central counties of metropolitan areas are not growing. A white county is a county that is not growing or has negative growth. If you look around Dallas-Ft. Worth, if you look around Atlanta, if you look around Memphis, if you look around a lot of the other metropolitan areas in the South, you will observe that the central counties are not gaining population, nor are they showing very much population growth compared to the outlying areas. The other thing to observe is that while rural America may be undergoing a Renaissance, if you look on a county-by-county basis, there are still more counties losing population or not gaining population than there are counties growing.

Slide: Population distribution in the South and population distribution in the nation has changed considerably in recent decades. This shows that the West is really the fastest-growing region in percentage terms. The South has increased its share of total population only slightly in recent years.

Slide: This chart again relates to some of the population trends that I was observing in metropolitan areas. I think this shows very dramatically the relationship of big city population growth to suburban population growth. What we have is the change in central city population compared with the change in metropolitan area population. You can see that in virtually all major metropolitan areas in the South, the non-central city portion is growing much faster than the central city portion. In a number of cases the central city is actually losing population. It is even true in Dallas and Ft. Worth, and in some of what we think to be fast-growing, booming Sunbelt cities. These are fast-growing, booming metropolitan areas, but a lot of the central cities are stagnating. You can see that Atlanta had a considerable loss of population between 1970 and 1975.

Slide: Let us look at employment. The rapid population growth in the South has been accompanied by substantial gains in employment and income. Between 1970 and 1978, the total amount of agricultural employment grew 36 percent, compared with a 21 percent gain nationally. A significant portion of Southern employment growth occurred in the manufacturing sector, while industrial employment has remained flat or dropped slightly in other regions of the U.S.

Slide: Every Southern state is exhibiting faster income growth than the nation as a whole. In contrast, many Northern-tier states are showing per capita income growth less than the national average. Let me observe that this differential in income growth between the North and the South, or the Sunbelt and the Frost Belt, as it is sometimes referred to, has led some politicians and journalists to refer to the North as the lagging and most distressed region of the United States.

Slide: There you can see that personal income has grown faster in the South than it has in the nation as a whole. During the first seven years of the decade, the growth was 111 as opposed to 92 percent. This is total personal income. On a per capita basis in terms of growth, you can see every Southern state is exhibiting faster income growth than the nation as a whole. One the upper part of this chart we have some Northern-tier states; they are showing income growth less than the national average. It is this disparity in income growth that has caused the Sunbelt-Frost Belt political confrontation, the argumentation being that slow income growth is a measure of distress and fast income growth is a measure of economic and fiscal health.

Slide: However, if we look at per capita income as a percent of the national average, we observe that most Northern states still have incomes above the national average; every Southern state, despite rapid economic growth over the past decade, remains below the national average, and, in some cases 25 to 30 percent below. There has been a new census report since this slide was made and I am pleased to announce that one Southern state now exceeds the national per capita income average and that is the state of Texas. In 1979, per capita income in Texas reached 100.5 percent of the U.S. average.

Slide: What this chart shows very vividly is how the structure of the Southern economy has changed in the last 40 years. To put it simply, the South has become more and more like the rest of the nation. If you look at the distribution of employment in 1940 relative to the U.S., you see that the South was over-represented in agriculture and under-represented in manufacturing, trade and services. By the mid-1970s, these structural differences had virtually disappeared. If you take the region as a whole, there really was very little difference between the regional and national employment distribution patterns. Manufacturing, in terms of percentage of employment, is very close to the U.S., a couple of points behind. In fact, if you go through the various employment categories, you see that the South and the nation are very much alike. Of course, this diversification and maturation has also made the region more susceptible to the business cycle. One example is the current recession that we may or may not be coming out of. A lot of Southeastern states right now are showing unemployment rates higher than the national average. I think that is even more interesting when you look at what is happening in the Northeast, which some people think is the distressed region of the country. If you take out Michigan, Ohio and Pennsylvania, you find that the other Northeastern states are showing unemployment rates below the national average. Now that is a dramatic reversal from the pattern of the last recession.

Slide: This is a very instructive diagram that really illustrates the convergence that I have referred to several times. I say that the regions are becoming more alike and that the South is catching up with the rest of the nation, and I think this is most vivid when you look at the convergence of per capita income since 1929. In 1929, the mid-Eastern region of the country had a per capita income that was 140 percent of the national average while the Southeast had income that was only about 53 percent of the national average. Look what has happened over the last fifty years. All of the regions have converged. If you express their per capita income as a percent of the nation, the Southeast and the Southwest are catching up. In relative terms, the Northeast and North Central regions of the country are declining. What this indicates, to me, is a very efficient economic system which permits, facilitates, and maybe even encourages the movement of productive resources across regions with the end result being a national economic convergence, and a catch-up of the lagging regions. There is no guarantee that this convergence will continue. There is certainly no indication that having once converged that the Southeast might become the wealth area of the country and the Northeast the poor area of the country, although some Northern politicians would have us believe that. What I think this illustrates is the operation of a very efficient market economy in a common market of fifty states, where we do not have any artificial restrictions on the movement of labor, capital and technology. I showed this slide at a conference in Austria at an East-West conference on regional development and there were a lot of people there from the Soviet Union and Eastern Europe, and they were absolutely incredulous. They couldn't believe that this was happening, because every other country in the world is attempting to bring up the income level of its lagging regions with all kinds of specific targeted programs, and, frankly, have not had very much success. We have never really had any regional development programs per se and yet our lagging regions are catching up with our advanced regions. I find this very encouraging. Obviously, we have smoothed out the year-to-year fluctuations and we have idealized these trends lines, but nonetheless, I think that the conclusion is obvious.

Slide: Some people like to look ahead twenty to thirty years and imagine what the region is going to look like. This is one projection that was made by the Appalachian Regional Commission some years ago - what they thought the urban regions of the South would look like and where they would be in the year 2000. Maybe it will look like that; maybe it won't. I don't think that is the way it will be. I think we are going to have a lot more population dispersal than this map would indicate.

Slide: These are the census projections of Southern population and they were reasonably accurate for 1980. I think the predictions for 1990 may be a bit high. Predictions are usually wrong. Let me offer a couple of reasons why I think the Southern population, which they are projecting at close to 80 million people in 1990, is not going to reach this level. I am surprised that more demographers and economists have not recognized this; I think it is very dangerous to do straight line extrapolations of population growth and migration because there are very fickle patterns and they can change almost overnight.

I do not think the South is going to grow as fast in the 1980's, as everybody thinks it is, for basically two sets of reasons. The first is demographics. If you look at the age distribution of the American population, you find that those baby boom babies that have had such a dramatic influence on our social, cultural, political and economic life are getting older. When I say they are getting older, they are getting to that state of life where they are setting up households, having children, buying homes, but more significantly becoming less mobile. Now, if history is any guide, as people get older they become less mobile, at least until they reach the age of 65. If you are between the ages of 18 and 24, you are more likely to move than if you are between the ages of 24 and 34. If you are in that age group, you are more likely to move than if you are between your mid-thirties and your mid-forties.

As the decade proceeds and the baby boom generation ages, they will probably become less mobile simply because as people get older and set up households they are less likely to move. This has to do with attitudes about work; it has to do with the family situation, and I think there is also a noticeable trend of reluctance of people to accept moves for economic reasons. I mean there seem to be other values that are coming into play now. You read in the paper about corporations having a harder and harder time getting their young people to transfer from one place to another. It is the aging of that baby boom generation that is going to bring about a slow-down in inter-regional migration and migration generally. It is not going to simply affect the South; it is going to affect all regions. Remember that migration has been the source of over half of the region's population growth during the 1970s.

The second set of reasons why I think all the population and industrial growth projections are off has to do with what is happening to the costs of doing business in the South. The South is no longer a cheap place to live. The South is no longer a region of cheap and abundant energy. Whether you look at the cost of living or you look at production costs, and you can do this across industries, you find that the costs are rising faster in the South than they are in other regions. This is what I would call an inevitable, if unfortunate, consequence of the rapid economic growth that has occurred in the region. As incomes are catching up with the rest of the nation, as the employment distribution pattern begins to look more and more like the rest of the nation, the costs of living and the costs of doing business in manufacturing now exceed the national average in several major industries.

Slide: In this one we can see the Consumer Price Index is going up faster in the South than it is in any other region. The South is the most inflationary region of the nation. We start at a lower base but prices in percentage terms are going up faster. So, I would predict by the end of the decade that there will be virtually no difference in the costs of living in the South as compared with other regions. In particular the South's metropolitan areas, Houston, Dallas and Atlanta, have been among the nation's most inflationary cities for the last fifteen years. Some of the Northeastern cities are showing much smaller price increases. So, while overall living costs in the South may remain slightly below the national average, I think this differential is surely going to disappear within a few years.

I would like to move now to my second topic, which is a likely scenario for the eighties and what our commission thinks at this point in time, or at least what my task force observed. If current trends continue, it seems likely that the long time gap between the South and the rest of the country may be erased by the end of the decade. That does not mean that all Southern states will have achieved the national mean in terms of employment levels or income, but the region as a whole should be up to the national average by the end of the decade. Again, this equalization may be an indication or a signal that the South has lost some of its economic advantage, compared with other regions. As I mentioned a moment ago, by the end of the eighties the South is no longer going to be able to market itself on the basis of cheap labor or inexpensive housing or lower overall living costs.

There are several other developments that may erode the competitive advantages of the South in coming years. The Northern states have become much more aggressive in industrial recruiting. The Northern states are now cutting taxes, both personal and business taxes. They are taking their business climate very seriously and have put some very stringent controls on the growth of the public sector. The South, by contrast, has a relatively underdeveloped public sector and not just in the field of elementary and secondary education. So, while the Northern states are cutting their taxes, the pressure for higher taxes and higher levels of public spending will continue to rise in the Southland and that may mean increases in state and local taxes. Another development that may erode or help to erode the competitiveness of this region is the unionization of Southern industry, which inevitably has the result of driving up production costs and living costs. In this regard, I think the J. P. Steven's settlement was a watershed that really signals a change in the labor climate for the Southern region.

Our task force has met twice and we have observed these economic and demographic trends. We are encouraged by some and we are discouraged by others. The task force believes that growth is good, to put it simply, and indeed necessary if the region is to achieve social, economic, and political parity with the rest of the nation. At the same time, we have recognized that growth is not costless. We should look at the costs of growth as well as the benefits and those costs include both direct and indirect costs, such as congestion, environmental degradation and higher government outlays for infrastructure and public services. We also believe that what happens in Washington during the eighties is going to have a much greater impact on the Southern economy than any regional or local initiatives. We are very concerned about national economic policy matters and all this talk about revitalizing industrial America. We are afraid that revitalization of American industry is another smoke screen for targeting more aid, more loans to so-called distressed cities and industries in the Northeast. We have some problems with that because we believe it could penalize the South and also interfere with national economic efficiency.

We have identified seven or eight other areas where we are going to focus our attention, or indeed have been focusing our attention, and are now framing some recommendations. They have to do with transportation, capital formation, foreign trade and investment, in-migration, particularly the new migration from the Caribbean and Latin America. We are looking at the state and local fiscal climate in economic development. We are looking at problems of minorities. We have a section of our report that is focusing on agriculture and rural development. Finally, and I say finally not because it is last on our agenda, but it fits in with this group, is the nexus between education and economic growth. Lower levels of educational achievement in the South, lower per capita education expenditures, and increasing demands for a better trained labor force are very high on our agenda as areas needing attention during the 1980s.

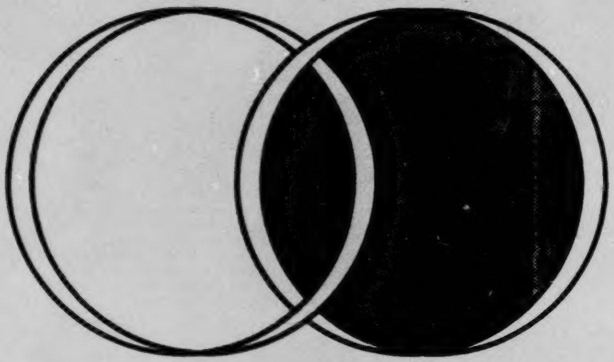
While we have not framed any specific recommendations, I would predict that we will say something about the need for higher expenditures in elementary and secondary education. I think we will say something about the need for higher teacher salaries in the South. I think we will say something about creating a better matching between vocational education programs and the job skills demanded by new and expanding industries in the South. We are not going to suggest that the education system is totally responsible for the success or failure of bringing about an appropriate labor force to serve new industry, but we do feel very strongly that Southern schools bear the responsibility for imparting functional literacy to Southern children; and that strikes us as the most important connection between education, job skills, and economic growth. It really gets down primarily to a question of functional literacy. Are public schools in the South training people who can read, write, and think? That is more important than whether they know how to work a lathe.

The future of Southern industry to my mind does not lie in low-skill, labor-intensive manufacturing. If you look at the industries that are growing fastest across the region, those are industries that will demand a skilled and trained or at least trainable labor force. The fast growing industries include electronics, transportation and aerospace. While the region is currently dominated by low-skill, low-wage, labor-intensive manufacturing such as lumber, furniture, apparel, textiles, food processing - those are not going to be growth industries during the 1980s. Growth is going to occur in high technology, higher skill industries and there, I think, public education has some real responsibilities.

The fact remains that in every Southern state per pupil expenditure for elementary and secondary education remains well below the national average. This is also true for teacher salaries. If you look at the percent of persons over 25 years old who are high school graduates, the South, while making dramatic progress, still remains well below the national average and far below the other regions. In 1960, 35 percent of the Southern population over 25 were high school graduates. By 1979, it was up to 63 percent, but that is far behind other regions. The West was at 51 percent in 1960 and is at 76 percent in 1979, which compares with 68½ percent in the North Central region and 68 percent in the Northeast as well. We still have a long way to go in improving the ratio of our population to our high school graduates.

There is another interesting statistic, and I am a little confused by it. Maybe you can enlighten me. While we are not doing very well in elementary and secondary, we seem to be doing fairly well in higher education. In fact, the South has a higher percentage of college graduates among the population 25 years and older than does the Midwest. It is 15.2 percent (this is in 1979) in the South and 14.9 percent in the Midwest, or what is sometimes called the North Central region. I expect it is partly accounted for by migration, because the Southland has received a number of college-educated migrants. But way back in 1960, there was a higher percentage of college graduates in the South than there was in the Midwest, although both of these regions lagged behind the Northeast and the West in terms of the percent of persons 25 years and older who are college graduates.

It seems to me, and I think our task force believes this as well, if we are looking at the level at which to target additional educational resources, and we believe the South needs to spend more on education, it is the elementary and secondary level that needs it, not higher education. Higher education has its own set of problems. If you are talking about what is going to be important in terms of job creation, if you are talking about what is going to be important in terms of the economic development of the region, if you are talking about what is important in terms of continuing this decline in poverty levels, the South will need to spend more on elementary and secondary education. (Something I did not mention but has been very dramatic in the South is that while the South still has a higher percentage of poor children and poor families than any other region, the rate of decline has been fastest in the South, and it isn't because the South has liberal welfare programs. The reason poverty rates have been declining in the South is because of the rapid economic development that has occurred across the region. And that is one of the reasons our task force feels that that process has got to continue.) We feel that one of the keys, or one of the possible bottlenecks, is the quality of elementary and secondary education in terms of developing functional job skills. Even more important is the literacy question, because industry can train people if people know how to read, write and think. It seems to me that is the real challenge facing public education in the Southern region.



regional needs assessment and futures technology

using current educational needs to direct improvements of the future

TERRY L. EIDELL
JOE E. SHIVELY

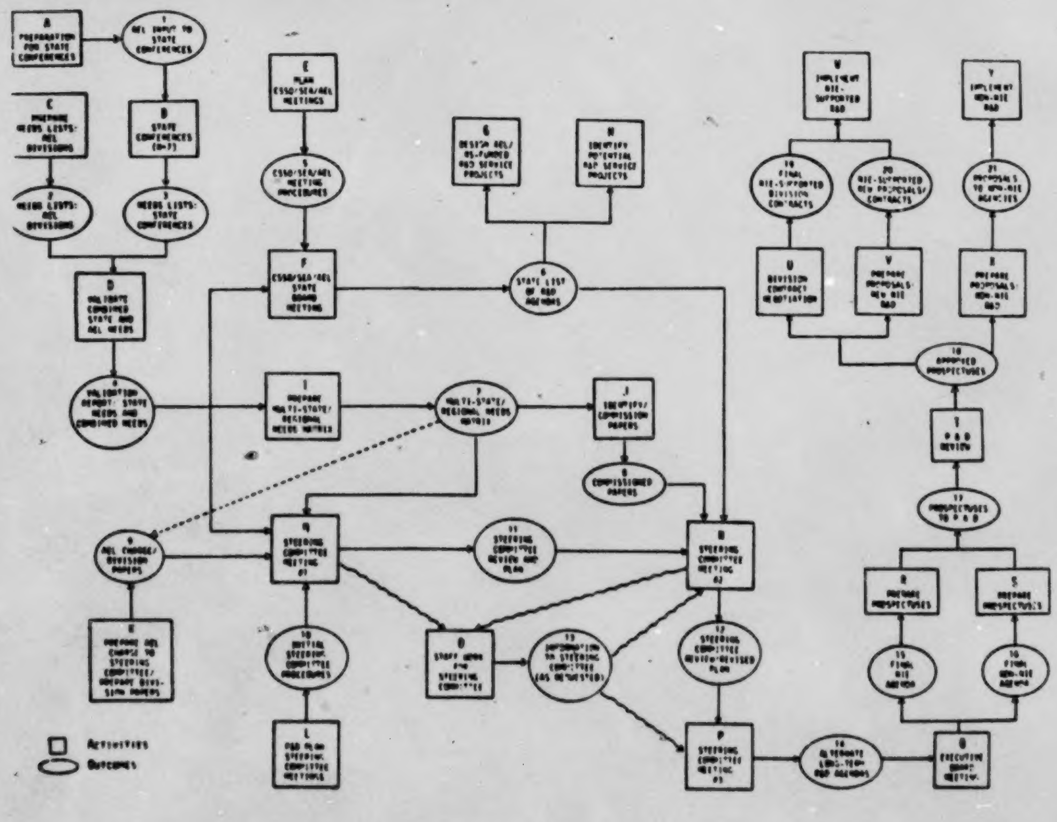
The desire to improve educational practice and to enhance peoples' opportunity to achieve their educational goals undergirds the mission of many organizations. However, as past performance of such organizations is surveyed, many well-intentioned but ill-fated attempts to attain these desired goals are discovered. In fact, the literature on educational innovation is filled with descriptions of noble attempts at educational improvement, but the success rate is far less than impressive.

Careful review of attempts made to improve education has led us to conclude that positive changes result only when those who seek to improve education are fully informed of the real-world conditions they seek to modify. In other words, if improved educational practice is to be systematically achieved, those who design such improved practices must be ever cognizant of the milieu into which such "improvements" are to be placed. The improved practice, if it is to be effective, must meet the needs of educational practitioners and be responsive to conditions that exist.

This perspective led the Appalachia Educational Laboratory (AEL) to conclude that its rate of success in improving educational practice would be determined by the extent to which its R & D efforts are driven by real-world educational needs of the Region. AEL therefore determined that it should become a needs-driven organization. However, the literature on educational needs assessment and on needs-driven R & D organizations provided few models to follow. It is true that there is a voluminous literature on educational needs assessment, but this literature hardly presents a coherent body of knowledge either about educational needs or about how they may be successfully identified. It is also true that much has been written about R & D organizations, but little is reported about how such organizations can successfully use data documenting needs as a source of organizational direction.

About a year ago, therefore, AEL found itself faced with the idea that improving educational practice with better than a hit-and-miss level of success required a needs-driven approach. At the same time, AEL found itself confronted by a dearth of reliable information about needs-driven R & D organizations. So AEL committed itself to investing a significant portion of its 1980 resources to designing and implementing systematic procedures for achieving this desired organizational objective.

To initiate the 1980 Needs Assessment Project, AEL staff first prepared a draft design which was shared with National Institute of Education (NIE) personnel, AEL Board members, and several experts on needs assessment. This initial design statement was distributed in December 1979. Each person who received a copy of this draft was requested to provide feedback about how the design might be improved. Based upon this feedback, a final statement of the design for AEL's 1980 Needs Assessment Project was prepared. After this design was approved by the Laboratory's institutional monitor, work on the project was implemented. A flow chart depicting the major activities and products involved in this project is provided in Figure 1.



A PREPARATION FOR STATE CONFERENCES
1 AEL INPUT TO STATE CONFERENCES
B STATE CONFERENCES (N=7)
C PREPARE NEEDS LISTS: AEL DIVISIONS
2 NEEDS LISTS: AEL DIVISIONS
3 NEEDS LISTS: STATE CONFERENCES
D VALIDATE COMBINED STATE AND AEL NEEDS
4 VALIDATION REPORT: STATE NEEDS AND COMBINED NEEDS
E PLAN CSSO/SEA/AEL MEETINGS
5 CSSO/SEA/AEL MEETING PROCEDURES
F CSSO/SEA/AEL STATE BOARD MEETING
6 STATE LIST OF R&D AGENDAS
G DESIGN AEL/ NS-FUNDED R&D SERVICE PROJECTS
H IDENTIFY POTENTIAL R&D SERVICE PROJECTS
I PREPARE MULTI-STATE/ REGIONAL NEEDS MATRIX
7 MULTI-STATE/ REGIONAL NEEDS MATRIX
J IDENTIFY/ COMMISSION PAPERS
8 COMMISSIONED PAPERS
9 AEL CHARGE/ DIVISION PAPERS
K PREPARE AEL CHARGE TO STEERING COMMITTEE/ PREPARE DIVISION PAPERS
L R&D PLAN STEERING COMMITTEE MEETINGS
10 INITIAL STEERING COMMITTEE PROCEDURES
M STEERING COMMITTEE MEETING #1
11 STEERING COMMITTEE REVIEW AND PLAN
N STEERING COMMITTEE MEETING #2
O STAFF WORK FOR STEERING COMMITTEE
13 INFORMATION TO STEERING COMMITTEE (AS REQUESTED)
12 STEERING COMMITTEE REVIEW/REVISED PLAN
P STEERING COMMITTEE MEETING #3
14 ALTERNATE LONG-TERM R&D AGENDAS
Q EXECUTIVE BOARD REVIEW
15 FINAL NIE AGENDA
16 FINAL NON-NIE AGENDA
R PREPARE PROSPECTUSES
S PREPARE PROSPECTUSES
17 PROSPECTUSES TO R & D
T R & D REVIEW
18 APPROVED PROSPECTUSES
U DIVISION CONTRACT NEGOTIATION
V PREPARE PROPOSALS: NEW NIE R&D
X PREPARE PROPOSALS: NON-NIE R&D
19 FINAL NIE-SUPPORTED DIVISION CONTRACTS
20 NIE-SUPPORTED NEW PROPOSALS/ CONTRACTS
21 PROPOSALS TO NON-NIE AGENCIES
W IMPLEMENT NIE-SUPPORTED R&D
Y IMPLEMENT NON-NIE R&D
Activities
Outcomes

Figure 1.

Major Needs Assessment Activities and Outcomes

Collecting and Assembling Information on Needs

Our review of needs assessment procedures which are commonly used drew attention to two primary weaknesses often found in such efforts. One of these problems arises in conjunction with the procedures used to identify what needs exist and to verify the veracity of these needs. Those assessing needs are commonly forced either to use completely open-ended data-gathering procedures or to use a predetermined list of need statements which respondents are asked to rate or rank. In an attempt to overcome both of these data-gathering problems, AEL's design called for the use of conferences in which participants generated statements of need in a completely open-ended manner. Then the outputs of these conferences were submitted to a larger group of respondents to ensure the generalizability of data on the importance of the need statements generated.

A second problem commonly confronted in needs assessment is that of dealing only with the expressed needs of a client group. In other words, the statements of need often generated are restricted to the expressed needs of people who are in a situation. While such statements are certainly of value, so are the needs of such people as they are independently identified by others who are students (observers) of the situation in question. Several techniques employed in AEL's 1980 Needs Assessment Project were designed to ameliorate the effects of this problem. The primary data about the educational needs of each state in the Region were generated and validated by practicing educators, students, parents, and others interested in education. However, these data were supplemented in several ways to ensure that the scholar/observer perspective was also considered. One such technique called upon AEL's experienced staff to identify what they perceived the Region's educational needs to be. Another technique used was that of commissioning in-depth papers on several aspects of need thought to be relevant. Finally, a scholar known for his in-depth knowledge of the Region was retained as an advisor on interpreting educational needs and relating them to known conditions of the Region.

More detailed information on the four primary information-gathering techniques employed in AEL's 1980 Needs Assessment Project is provided below. Because of its volume (approximately 1,000 pages), neither the complete documentation of these procedures nor the complete compilation of outcomes is provided here.

State Conferences

Primary information about the educational needs of AEL's member states was obtained through a carefully structured group process involving selected participants in each state. Each of the seven conferences held to generate initial statements of educational need required participants to systematically identify problems relevant to education in their state and to refine these problem statements through carefully structured group interaction. A brief statement of the conceptual framework underlying the design of these conferences is provided in Appendix A. Participants involved in each state conference were selected to ensure that they represented a good cross-section of the various groups in a state which are interested in education. Therefore, nominations of potential participants were sought from such diverse interests as state education agencies, teachers' associations, parent-teacher groups, state school boards' associations, the NAACP, state welfare agencies, organizations for the aging, and so forth. In all, approximately 25 participants were identified and involved in each state conference.

The final product of each state conference was a document in which the educational needs of the state, as defined by conference participants, were explicated. In addition, the relative importance of each need stated was indicated according to ratings of importance provided by participants.

AEL-generated Need Statements

Since AEL staff have considerable direct experience with education in the Region, they, too, were asked to develop statements of educational need which they had found from their work. Personnel in each of the Laboratory's R & D divisions were requested to identify what they thought to be the Region's most critical educational problems. AEL staff members, therefore, participated in procedures similar to those used in the state conferences to identify and refine statements of salient educational needs. After final checks for redundance and revision were completed, a total of 39 need statements was provided by AEL staff.

Need Validation Process

Since the number of persons who could be reasonably accommodated in the conference group procedures was quite limited (about 25 participants per conference), a validation process was employed. In each state, approximately 125 individuals were selected to serve as validators for the state conference outcomes. These persons were chosen from lists of nominees secured from the same diverse interest groups as used to select conference participants.

A modified "Q sort" procedure was designed for use by validators. In each state, the 125 validators were mailed copies of the need statements generated by that state's conference participants. In addition, each validator received copies of the 39 need statements which the AEL staff had generated. While all these need statements were coded so that AEL project staff could differentiate between state conference and AEL-generated statements, validators were simply informed that the statements they received were obtained from these two sources. Each validator was asked to rate all statements received. The rating categories were (a) I believe that these needs have extreme importance in our state, (b) I believe that these needs have *considerable importance* in our state, (c) I believe that these needs have *relatively little* importance in our state, (d) I really *don't think that these are needs* in our state, and (e) I *don't understand these need statements* well enough to rate their importance.

When a validator completed his/her rating of the statements, the ratings were returned to AEL for tabulation. Based upon these ratings, the conference-generated need statements were rank ordered and compared with a similar ordering provided by conference participant ratings. When the validator *vs*. conference participant rank ordering of need statements for each state were compared using Spearman rank-order correlations, it was found that both groups rated the statements very similarly. Correlation coefficients across the seven state comparisons ranged from 0.58 to 0.86 (all were significant at the 0.0001 level).

Ratings of AEL-generated need statements across all seven states were used to rank order these statements of educational need. A Kendall coefficient of concordance was calculated to compare how these statements had been ranked across validator groups in the seven states. From this calculation, it was found that there was good agreement (W = 0.91) across the seven state Region on the importance rating of the AEL-generated need statements.

Commissioned Papers

To provide more complete information about several areas of education in which problems have been found to exist over time in the Region, three papers were commissioned. Leadership in preparing two of these papers was provided by AEL staff. However, in both of these cases, external consultants were employed to provide expert assistance. The titles of the papers thus prepared as a joint effort of AEL staff and expert consultants are: "Career Guidance: Status, Needs, and Implications for Research and Development;" and "Children and Families in Appalachia: The Status, Needs, and Implications for R & D Activities." The third commissioned paper, entitled "Applications of Technology to the Teaching of Basic Skills," was prepared for AEL under a subcontract with the Northwest Regional Educational Laboratory.

In summary, data gathering for AEL's 1980 Needs Assessment Project included the open-ended solicitation of expressed needs from about 25 persons in each of seven state conferences, needs identified by AEL staff on the basis of their experience in the Region, the rating of the importance of the needs thus identified by approximately 125 persons in each of seven states, and three in-depth papers on needs. Need statements generated in the seven state conferences were considered the most important source of information. However, data from the validation process, the staff-identified needs, and those cited in the commissioned papers enriched considerably the wealth of information provided by this project.

Using Data for Decision-Making

While some common problems endemic to most needs assessment projects were identified above, by far, the greatest weaknesses found in most such projects come at the point of using the data. In our review of needs assessment literature, we found that even the most sophisticated data collection and analysis procedures were often followed by haphazard or poorly planned decision-making procedures for designing responsive action. In other words, even when needs have been carefully identified and codified, there is a general lack of sophistication in the manner in which the data are used.

AEL is responsible not only for knowing its Region's educational needs but also for demonstrating its responsiveness to these needs. Therefore, it was incumbent on AEL to follow systematic and documented procedures for its use of needs data in making decisions about future work of the Laboratory. Recognizing this responsibility from the outset enabled AEL staff to design carefully structured decision-making processes for use of the needs data as an integral part of the project. Therefore, the flow chart presented in Figure 1 does not conclude simply with a report of the educational needs of the Region. Instead, it depicts explicit procedures for use of this information to develop a needs-based R & D agenda for each AEL member state and to develop a long-term, programmatic R & D agenda for the Laboratory. More information about these decision-making procedures is provided below.

Developing State-Level R & D Agendas

The educational needs identified by conference participants in each state, the ratings assigned these needs by conferees, and the validation process provided the data base from which decisions were made about an appropriate R & D agenda for each state. This decision-making process required replication of a four-phase procedure in each of the seven member states.

Phase one. This process was carried out in a one-day meeting of AEL's state consultant with key members of a state's department of education personnel. In this meeting, need statements from the state's conference were carefully reviewed. This review was performed in order to group statements - to the extent possible - into clusters which dealt with similar educational problems. These need statements were then analyzed to determine whether or not they represented problems that would be susceptible to an R & D solution. Need statements which were not judged amenable to an R & D solution were thus removed from further consideration. Once clusters had been developed, a comprehensive problem statement which included the essential elements of each need was written. The outcome of this phase was a series of statements which described educational problems based upon the needs originally identified and amenable to R & D solution.

Phase two. Phase two of the process involved the six AEL Board members from each state, the AEL director, and one other staff member in a half-day meeting in each state. These meetings were held to review the problem statements generated in phase one. The review was conducted to provide an independent reassessment of work done in phase one, to clarify each of the problem statements, and to generate suggested R & D strategies for the solution of each problem. Clarifications and solution strategies developed in these one-day meetings were recorded on transparencies so that they could be shared with the group as they were done.

Phase three. This part of the process involved AEL Board members, key SEA personnel, the AEL director, and one additional AEL staff member in a half-day meeting. In this meeting, the clarified problem statements and suggested R & D solution strategies were reviewed serially, using the transparencies produced in phase two. Each problem statement was reviewed and further clarified as necessary. Then the suggested R & D solution strategies relevant to the stated problem were reviewed, modified, and expanded. Finally, each member of the group was asked to rate each problem statement regarding its importance and timeliness and to rate the related R & D solution strategies in terms of their potential cost, gain, and ease of implementation. The revised problem statements, R & D solution strategies, and ratings were then returned to AEL's Needs Assessment Project staff for completion of the final phase of the process.

Phase four. Phase four of the state-level R & D agenda development was performed by AEL staff. To complete this phase, staff refined the problem/R & D solution strategy statements and analyzed the rating information generated at the AEL Board and SEA meeting. Finally, staff prepared a comprehensive report for each state. Each of these reports reviewed all procedures undertaken from the state needs identification conference through the R & D problem/R & D solution strategy meeting. Each report provided copies of the detailed information produced in each step of these procedures and recommended an agenda of R & D projects which the state's educational leaders should consider as especially responsive to the state's educational needs. Twenty copies of each state's report were delivered to the Chief State School Officer.

The state-level R & D agendas produced in this process are expected to be used in productive ways. For example, they will serve as the primary basis for determining what short-term R & D projects will be jointly undertaken by AEL's Regional Services Program and staff of each SEA. In addition, these agendas will provide SEA personnel with a positive stimulus for undertaking, as staff projects or under contract, R & D solutions to some of the state's most pressing educational problems.

Designing AEL's Long-term, Programmatic R & D Agenda

Decisions about what R & D is to be undertaken by the Laboratory are ultimately the responsibility of AEL's Executive Board. However, as is true with most boards, committees of Board members are often made responsible for working through major tasks and preparing alternatives for actual Board consideration. Since its creation in 1974, the Planning and Development (P & D) Committee of AEL's Executive Board has consistently undertaken such tasks relevant to AEL program planning. Therefore, the P & D Committee was asked to work with AEL staff in the task of translating needs identified through the 1980 Needs Assessment Project into a coherent agenda (or alternate agendas) for AEL's future programmatic R & D work.

Members of the P & D Committee represent a good cross-section of the Region's educational institutions. Included on the Committee's membership are a classroom teacher, a local school district superintendent, a state education association executive, a state education department representative, the president of a small college, the education dean of a regional university, and the education dean of a major state university. All P & D Committee members are residents of the Region and have firsthand experience with various facets of the Region's education systems. Since two Committee members are women and one member is a minority, the Committee is also reasonably well balanced from an equity perspective. These Committee characteristics notwithstanding, however, it was decided that supplemental expertise would strengthen the P & D Committee's decision-making ability on this task so critical to the Laboratory's future. Therefore, the P & D Committee's membership was supplemented by two non-Board personnel: (a) an expert on the Appalachian Region and its family characteristics and (b) AEL's institutional monitor from NIE.* For clarity, this larger group was then designated the Needs Assessment Steering Committee (NASC).

Basic charge to the NASC. All information on the Region's educational needs described above - conference statements and ratings, AEL statements, validation ratings, and commissioned papers - was assembled and organized with cross-reference tabs in two-volume ring binder sets for each member of the NASC. Each NASC member was also provided two analytical papers. These papers presented analyses of the Lab's current R & D program work in terms of the needs which has been identified and rated. In addition, the NASC was given a "statement of charge" paper in which the Committee's overall responsibilities were outlined and three criteria were suggested as the basis for decisions about AEL's long-term R & D agenda. The criteria suggested were:

- Is the need/problem amenable to an R & D-based solution and is it one for which the initiation of new

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*Because of government concerns about conflict of interest, the NIE representative served not as a regular Committee member but as an observer.

R & D would not represent any unnecessary duplicating of effort with R & D work being performed elsewhere?

- Is the problem directly relevant to high priority educational needs identified in AEL's Region?

- Is the R & D work to be carried out for solving the problem feasible for performance by the Laboratory?

Using the information thus provided, the NASC proceeded to identify alternative long-term agendas for AEL's programmatic R & D.

First NASC meeting - August 5-8, 1980. To assist the Committee in addressing its task, a consultant was employed to analyze the need statements which were highest rated (top quartile) from each state. The consultant clustered similar statements and produced a total of 22 expanded need statements which encompassed all the top quartile-related needs statements. After reviewing the expanded need statements, the Committee sought to assign need statements from the next highest quartile rated group to the 22 expanded need statements. It was found that all these statements could be reasonably assigned to the 22 expanded need statements. Since all the need statements rated among the top half were directly relevant to the 22 expanded need statements, the Committee decided to focus attention on these second generation expanded statements of highest priority educational need. Each expanded need statement was carefully reviewed and rated according to the three criteria established in the NASC "charge" statement. Through this analysis and rating, ten expanded need statements were removed from further consideration. The remaining 12 expanded need statements were then transformed into more detailed R & D problem statements. NASC subgroups then further defined their understanding of what R & D might be an appropriate response to each R & D problem statement by outlining possible R & D activities judged relevant to each problem statement. After review and refinement of these expanded R & D program possibilities by the total Committee, the NASC requested that an R & D proposal precis be developed to focus on each of the 12 possible R & D program areas. AEL staff were requested to prepare these 12 proposal precis and provide them to the Committee at its next meeting.

Second NASC meeting - September 10-12, 1980. The first afternoon and evening of this meeting were spent by NASC members working individually to review each of the proposal precis prepared by AEL staff. Each Committee member was requested to complete an extensive evaluation form for each percis. These forms called for both structured and open-ended responses. AEL staff familiar with the proposal precis were available for consultation with individual NASC members throughout this review period. All Committee evaluation forms were collected at 8:00 a.m. on the second day of the meeting. Responses to structured questions were recorded and frequency distributions of Committee responses were prepared; all comments were also recorded. The summary evaluative information was then provided to the Committee and each proposal precis, along with the evaluative information relevant to it, was reviewed in a group meeting. Comments made during this review were recorded and made available for the afternoon session.

On the afternoon of September 11, the NASC was divided into two work groups. Each group was requested to prepare from one to three alternate agendas for AEL's long-term R & D agenda. Forms providing information about existing work and projected resources were provided to facilitate these efforts and one AEL staff member worked with each group as a facilitator, resource person, and recorder. In this half-day session, each group prepared one alternate long-term R & D agenda. After each group had shared its proposed agenda with the total NASC, it was decided that a third alternative - incorporating most features of each of the original alternatives - would be feasible. The NASC then charged AEL staff with responsibility for preparing refined versions of each group's alternative agenda and for preparing the hybrid agenda which had been discussed.

The last day of this second NASC meeting was devoted to review, rating, and discussion about the three alternative agendas. Each Committee member individually rated each of the three alternate agendas on a form provided, and this information was summarized and displayed. The Committee then discussed these ratings and commented on the various R & D programs proposed. These comments were recorded. Finally, the NASC decided that all three alternate, long-term R & D agendas should be presented to AEL's Executive Board, along with the Committee's ratings and comments.

Thus, over a six-week period involving seven days of intensive Committee work and six weeks of equally intensive work by AEL staff and consultants, the thousand-plus pages of information about the Region's educational needs, about R & D nationally, and about Laboratory resources and capabilities were carefully distilled into three well defined, alternate R & D agendas. Each of these agendas included detailed information - budget levels, timelines, objectives, related needs, and R & D activities - about the series of R & D programs envisioned for AEL.

AEL Executive Board decision. The chairman of the NASC presented a report on his Committee's work and on the alternate, long-term R & D agendas to the Executive Board at its September 18-19, 1980, meeting. After careful review of each alternative agenda, the Executive Board adopted, as AEL's long-term R & D agenda for the period 1981 through 1989, the agenda alternative which had received the highest rating by the NASC. Figure 2 on the following page presents the time frames and program titles for this long-term R & D agenda.

Now that the decision had been made about what R & D programs would be performed by AEL in the future, the Executive Board directed that AEL staff continue to work with the NASC in developing full proposals for the R & D work to be undertaken in the last six months of 1981 and in 1982. This continuing involvement of the NASC was ordered so that the actual details of the R & D proposed would (a) conform to the NASC understanding of the Region's highest priority educational needs and (b) adequately reflect the NASC's concerns about achieving equity through the school improvement intended as a result of this work.

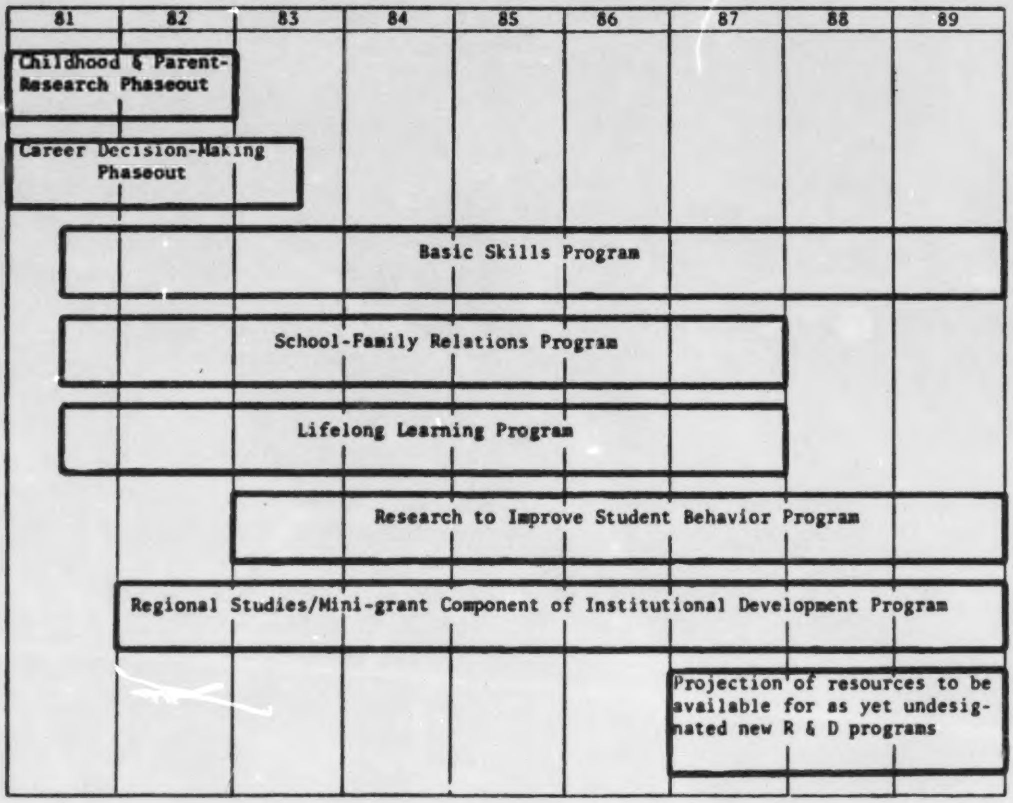

Figure 2.

AEL Long-term Programmatic R & D Agenda

This figure presents the program titles and projected timelines as approved on September 19, 1980, by AEL's Executive Board for the Laboratory's programmatic R & D. These program and timeline projections assume moderate increases, at three-year intervals, of NIE support for AEL. In compliance with AEL Executive Board policy, the projected support for programmatic R & D is allocated approximately 50 percent of the resources provided to the Laboratory by NIE. Remaining resources are used to support R & D services to the Region.

Third NASC meeting - November 13-14, 1980. A one and one-half day meeting of the NASC was scheduled. At this meeting, a one-half day session was devoted to each of the three major new R & D programs which were scheduled for initiation in 1981. Each half-day session involved the NASC and those members of the AEL staff who would prepare the proposal for one of the new R & D programs. Each session included a thorough review of the relevant proposal precis, budget level, and timeline for the R & D program. Special attention was again focused on the actual statements of educational need which had led to identification and selection of the R & D program area under discussion. NASC members also shared their perceptions of how such work should reflect overt concern for the various educationally and/or culturally disadvantaged of the Region. Based on these inputs from the Committee, AEL staff members agreed to prepare draft proposals for the NASC members.

AEL staff contracted external consultants, as needed, to obtain their expert input regarding the design of the proposed R & D programs. They also performed the customary reviews of literature, and they shared their ideas with appropriate NIE personnel to obtain further counsel. Drafts of proposals for the Basic Skills Program, Lifelong Learning Program, and School-Family Relations Program were prepared and mailed to all NASC members on January 30, 1981.

Fourth NASC meeting - February 5-6, 1981. This meeting was again held in three half-day sessions - one devoted to each draft proposal. AEL staff who had prepared each draft proposal participated in the appropriate session. Since Committee members had thoroughly reviewed each proposal in advance, each session was devoted to detailed discussion of R & D design, proposed activities, population considerations, and related concerns. Staff members recorded notes about Committee inputs as a basis for preparing final, revised proposals.

At this meeting, the Committee also reviewed its responsibility to the AEL Executive Board for assuring the appropriateness of the proposals to be submitted to NIE. It was decided that the draft proposals were sufficiently well developed and in line with the NASC's expectations that review of the final proposals and the decision of whether or not they should be submitted would be left to the Laboratory director. The Committee then established several specific guidelines for the Laboratory director's guidance in exercising this discretion.

The R & D program proposals have evolved, therefore, through a carefully structured and rigorous process of decision-making. While this process of decision-making required considerable time and effort, we believe that it was a very worthwhile use of resources. It represents, we believe, the kind of decision process required to responsibly assert that the long-term, programmatic R & D of the Laboratory is demonstrably linked to the Region's highest priority educational needs.

DAP: CONCEPTUAL FRAMEWORK FOR THE APPALACHIA EDUCATIONAL LABORATORY'S NEEDS ASSESSMENT PROJECT*

From Aristotle to Dewey to Churchman, problem solving has been the essential element in individual growth and effective group functioning. Despite the volumes of rhetoric devoted to the topic, however, groups continue to countenance difficulties in their attempts to define and solve the problems facing them. Consistently, problems tend to be defined more in terms of prescriptions for action than as discrepancies between actual and desired states of affairs. Commonly, groups spend more time dealing with difficulties encountered in how they function than with the topics that brought them together, frequently without recognizing that those are separate issues.

DAP is the acronym for a set of concepts and procedures that the members of any group can employ to refine their problem solving skills and bring them to bear on real-life, day-to-day group needs. Based upon a particular view of human beings, communication, and the process of inquiry, DAP involves the members of a group in generating and using three kinds of information: designative information (D) about the "what is" state of some one or some thing; comparable appraisive information (A) about "what is preferred;" and prescriptive information (P) that suggests what to do when discrepancies can be identified between "what is" and "what is preferred."

As group members generate and use these three kinds of information, they move systematically through three different phases of the problem solving process. They begin by identifying their individual and common problems clearly and specifically. They then develop plans or prescriptions for dealing with the most critical of those common problems. And they complete the cycle of problem solving by implementing their plans, monitoring effects, and evaluating their success as joint problem solving systems.

Two relatively simple, but terribly powerful conceptualizations undergird the DAP approach to identifying and resolving problems or needs within groups. One of these provides us with a way of thinking clearly about needs, needs assessment, and need fulfillment. The other provides us with a way of thinking about communication within and across groups.

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*Adapted from

Nagle, John M. Two conceptualizations that undergird the 1980 Needs Assessment Project of the Appalachia Educational Laboratory. Paper presentation at the annual AEL Conference on Improving Education through Research and Development. Charleston, West Virginia, October 1980.

Nagle, John M. and James H. Balderson. Group problem solving: The DAP approach. Final Project Report. Center for Educational Policy and Management. Eugene, Oregon, March 1974.

How we think about needs or problems takes its cues from C. S. Morris, a communication theorist who has helped us distinguish clearly among designative inquiry, appraisive inquiry, and prescriptive inquiry--the source of DAP. To be more specific:

- When any of us tries to identify "what was, is, or will be" with respect to ourselves, others, or the world out there, we're engaged in designative inquiry and the product of our efforts is designative information "Yesterday was Sunday." "It's now after 2:00 p.m." "Tomorrow I will be in Chicago." "Fall is certainly beautiful in the Appalachians." "It is 80° in this room." All of these statements provide designative information, for they attempt to describe what was, what is, or what will be.

- By contrast, when we identify our preferences or desires for the past, present, or future, we're engaged in a very different kind of inquiry, for our words become value-laden, and they describe, not "what is," but, rather, "what is preferred." We call this second kind of effort appraisive inquiry and the information it produces appraisive information. For instance, "I have always preferred ice cream to pie." "My desire is to be an educator." "I wish that it was 70° in this room." These are appraisive statements.

- Now, needs or problems arise when there is a clear discrepancy or mismatch between "what is" and "what is preferred," between the designative and appraisive information we have about some common referent. "Johnny reads two levels below grade level; we prefer him to read at least at grade level." "It is 80 degrees in this room; I prefer it to be 70 degrees." These are statements of need.

- To complete the cycle, there is yet a third kind of inquiry and resulting information that we call prescriptive inquiry and prescriptive information. As the words suggest, prescriptive inquiry attempts to identify specific actions, plans, strategies, tactics, and so forth that, if implemented, will reduce known discrepancies between "what is" and "what is preferred." Sometimes, prescriptions are

> designed to change "what is"--the designative state. "Turn on the air conditioner to reduce the temperature from 80° to 70°." Other times, they are designed to change "what is preferred"--the appraisive state. Either way, however, they take their cues from clearly identified needs that have been defined in terms of "what is" and "what is preferred."

In AEL's Needs Assessment Project, there were two specific influences of this particular conceptualization of needs and needs assessement:

- First, in our effort to distinguish clearly throughout the project between identifying needs on the one hand and, on the other, developing plans to meet those needs. Throughout the project, we have tried assiduously not to mix these two related, but very different kinds of activities.

- And second, in our effort to state needs in terms of clear discrepancies between "what is" and "what is preferred." Whether stated by participants in State Conferences, sent to others for validation, shared with state departments, or used by AEL's Board and staff to prepare long-term R and D agendas, the educational needs that provided grist for the project were consistently framed in terms of parallel descriptions of what is and what is preferred with respect to some referent.

The second conceptualization that undergrids DAP has to do with levels of communicative contact among human beings. It influenced, rather subtly, the sequence of activities that comprised the Needs Assessment Project. Think for a moment about what happens when you communicate with others, and see if these five levels of communication contact are in evidence:

Level One: Fidelity

That is, when I give a message to someone else, can he or she replicate if faithfully. Sometimes, fidelity of contact is all I want (e.g., reserving a flight to Charleston when I know precisely the flight I want); more likely, however, fidelity is just the first step, but a very necessary one, in my efforts to communicate with others.

Level Two: Understanding

That is, does the person who can replicate my message also understand it? Does he or she know what I mean? Can he or she paraphrase the message to my satisfaction? If so, we've achieved effective communicative contact at the level of understanding.

Level Three: Acceptance or Agreement

Does the person accept or agree with my message? That is, does he or she accept as true my assertion of what is? Does he or she share my assertion of what is preferred? Does he or she agree that the need I have identified is indeed a need, or that a prescription I have developed has a high probability of meeting the need to which it is addressed.

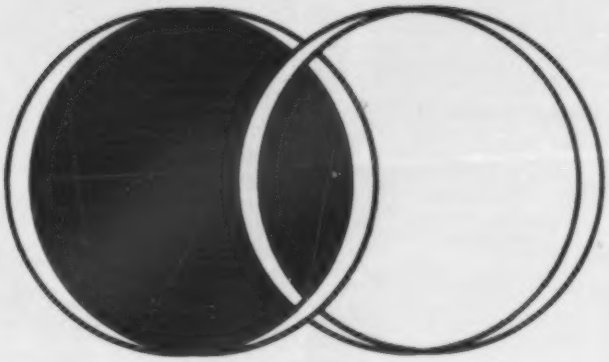
Level Four: Importance or Relevance

While the person may be able to replicate my message, while he or she may understand it and maybe even agree with it, does the person place the same priority on it that I do? Is it as important to him or her as it is to me? Testing our priorities is the challenge of this fourth level of communicative contact.

Level Five: Commitment

Ultimately, of course, assuming that communicative contact has been effective at the prior four levels, the final test of my effort to communicate turns on whether the person is prepared to behave consistent with my message. It is at this stage that descriptions of what is and what is preferred, statements of need, and descriptions for action move from the domain of linguistics to the domain of behavior.

The goal of the AEL's Needs Assessment Project was two-fold: first, to identify educational needs as they were perceived from a variety of perspectives; and then to process those needs through a sequence of steps and with a variety of persons in order to produce a set of prescriptions of "action plans" for dealing with those needs that are amenable to R and D and that were perceived by most participants to be most important. Throughout this multi-step process, our implicit goal was to focus on needs that can survive the five levels of communicative contact just described--fidelity, understanding, agreement, importance, and commitment. Thus, the four major activities that comprised the project, made operational the two basic conceptualizations undergirding DAP--its three kinds of inquiry and its five levels of communicative contact.



energy and education: facilities and curriculum

energy and education: facilities and curriculum

JACK ROBERTS

About fifteen years ago I heard Dr. Roger Maris, an East Tennessee native and a Baptist minister, a former history professor at the University of Tennessee, and now at Harvard, say that history does not repeat itself and that we made a serious mistake thinking that we could predict the future by the past. About this same time Margaret Mead was saying that it wasn't the fact that change was occurring, but it was change in the rate of change that was alarming. I think that is significant, considering the fact that these statements were made over fifteen years ago and we know what has happened since then. Margaret Mead also said that those of us that were born prior to World War II were going to have difficulty understanding the future and therefore in providing the leadership and some of the answers that we need in order to cope with the future. This was fifteen years ago!

I am not sure that we have followed their advice too well. I think we are still putting new wine in old wineskins, if you please. We tend to argue backward to, rather than forward from. I think we have been hearing through this conference, and it is true, that our problems are different and we are not going to be able to solve them in the traditional way. It is no longer a situation of going West or increasing production in the traditional way. The geopolitical situation and the increasing demand for more and more, the accompanying decrease in the supply of natural resources - especially as they relate to energy - coupled with increasing population and rising expectations, especially the nonindustrialized countries, present us with the most challenging problems our world has yet faced. We are going to have to come up with some complex and imaginative solutions.

William Baird, a high school teacher in Knoxville, is very knowledgeable in the area of energy education. He spends half his time teaching in the classroom and half working in an energy education project. I want to read some excerpts from a paper Bill has written.

"As we enter the decade of the eighties, we must take up the task of revising the user's manual for the planet. A look at population trends, land use trends, and the prime sources and uses of energy make it imperative that our children be taught the new rules for ethics and conservation, since many of the old ones no longer apply. If we have failed to convey the implications of squandering our birth rights of land, fossil fuels and a clean environment to those of us who will inherit these birthrights, then we will have failed as educators, parents, and purveyors of the user's manual for our children. For most of the two to five million years of human history the population was kept stable at less than one-half billion by the action of war, famine, disease, and pestilence. With the onset of the industrial revolution and technology, with the accompanying advances in medicine, agriculture, along with insecticides and herbicides, and weapon technology to make war the ultimate nightmare, the global population now has grown to four and a half billion. At the current rate of growth, 1.9 percent, we should see a doubling within 36 years. That would be nine billion people. The World Health Organization and others predict that this is the approximate holding capacity of the planet.

Our children need to be told that they cannot expect the Third World countries to remain quiet while the United States, with 5 percent of the earth's people, consumes 35 percent of the planet's fossil energy reserves. Fossil fuels are the result of pressurized decay of plants and animals over geologic time.

Compressing the one billion year history of life on earth into a scale of one year can be a useful teaching tool for improving perspective. On such a scale life began in the warm soup of the earth's oceans on January 1st. The present on this scale would be midnight on December 31st. The scale provides an interesting time table of earth's significant events as follows: July, gas and oil formation begin from decayed matter; September, coal formation begins; early October, the first dinosaurs appear; late October, the first mammals appear; December 25 and 26, the latter part of the last month, the Grand Canyon begins forming; December 31st, five o'clock in the morning, the first appearance of man; 7 A.M., the last Ice Age begins; 11:59 and 52 seconds P.M., the Industrial Revolution begins; at 11:59 and 56 seconds P.M., Pennsylvania oil was discovered by Drake; and 12:00 is the present.

Now, if we project the future just a few seconds on this scale, at 12:01, one second past midnight, natural gas reserves will be depleted. At 12:04 petroleum reserves will be gone. At 12:18 coal reserves will be depleted. Now these are based on estimates in September, 1971 issue of Scientific American. Now the above implies that 2/3 of the fossil fuels which required 500 million years to produce will be consumed during the lifetime of those in this room. If alternate fuels are not found in the next few years, then our children will find their options quite limited indeed.

In summary, the first half of the 20th century has been one of cheap, available energy. The earth now consumes petroleum at the rate of 63 million barrels daily. Our lives have been made easier through access to this ability to do work on a scale undreamed of by Egyptian pharaohs. Exponential growth of both uses of finite resources and population make it essential to incorporate energy education into every classroom at every level. Our children must be told of the coming changes in the rules and operating assumptions for the user's manual of their little blue planet earth."

Now, I want to give you some brief quotes from a speech by Richard Tillis, Director of the Office of Environmental Education of the State of Florida. Just five statements he made in a recent speech. He started out by saying, "We live in a world that is doubling its human population every 37 years." It is interesting that Bill Baird's paper said every 36. Pretty close! "We live in a world that is doubling the size of its industrial complex every ten years. We live in a nation that is doubling its consumption of oil every nine years. We live in a nation whose national objective is to double our use of coal every 14 years. We live in a state," (and that was Florida), "which is doubling its consumption of electricity every eight years." I don't know how that would compare with your state, but I guess it is somewhere in the ballpark.

Now I also want to give a few statements paraphrasing an address by Dr. Albert Bartlett. Dr. Bartlett is a physicist at the University of Colorado. He says that the forgotten fundamental of the energy crisis is the arithmetic of exponential growth. When this arithmetic is examined and applied to the question of how long known reserves of fossil fuels will last if consumption continues to grow at the predicted rates, Dr. Bartlett says the answers are enormously more pessimistic than are the pronouncements in the public press. Dr. Bartlett quotes Huxley who says, "Facts do not cease to exist because they are ignored. Exponential growth is a mathematical fact."

Bill Baird, whom I quoted a few minutes ago, uses the example of a lily pond to illustrate exponential growth in a way which has a lot of meaning for me. He says that if you have a pond that would hold 848 lilies and you put a lily in it and it doubles annually, the second year you would have two lilies, the next year four, eight, sixteen, thirty-two, sixty-four, two hundred and twelve, and at the end of nine years you would have 424 lilies and you would look at your pond and say it's half full. But the real kicker is that in one more year it'll be completely full. That's exponential growth. If you did another pond that will hold the 848 lilies, in one more year it's full. The next year if you keep going, you'll have to dig two ponds, four ponds, and at the end of nine years, if you can find the room to do it, you would have 848 ponds full of lilies. Now, that is what is happening to us in two directions. One, the way we're using our energy, and the other, the way the population of the world is growing.

When I was about eight years old, one of my older brothers came home from school and he had learned something he thought was pretty important. He asked me a question. He said, "Would you be willing to work for a penny a day if the amount you made would be doubled each day from now on as long as you worked." I said, "Of course not." Then he proceeded to show me what would happen with this exponential growth. In just a matter of a few days, I would be a very wealthy young man!

I learned a lesson I haven't forgotten. I didn't know the name of it at that time, but it is something I think our children need to learn. We have a lot of authorities, and Dr. Bartlett, who is one of them, says, "We are at or beyond the stage where it is necessary to begin doing something about this now. We are going to have a no-growth society. Will it be planned or will it just happen? If it just happens, it will bring on more suffering and misery than mankind would otherwise have to go through. We have a world economy built on cheap and abundant energy, but we no longer have cheap and abundant energy. The situation is going to become more serious in the future if we don't come through with some way of dealing with it." We have seen what has happened. The cost of energy is going to continue to rise. We are making some progress: cars are getting better mileage; appliances, some of the new ones, are using less energy; the public is becoming convinced we have an energy problem; and some of our schools are including energy education in their programs. Still, there is a big question of whether or not we are doing enough. When you go back and look at the fact that we do have about 1/20 of the world's population using about 1/3 of the resources, are we really doing as much as we have to do to plan for the best use of the remaining world resources?

The other comment I have heard recently is that as important and as big a problem as energy is, in the future it may be that some other resource such as clean water or a clean atmosphere may become a bigger problem. A few years from now we may be holding a conference like this and our theme may be clean water. That reminds me of the story about the good news and the bad news. It goes like this. In a few years we may all be drinking raw sewage - isn't that terrible to tell - but, that's the good news. The bad news is, there may not be enough to go around. We do need to make better plans. Plans from a world view, a national view and a state view regarding our energy situation. Perhaps, we need legislation in some states; but more important, we need commitment by educators to make energy education a part of every student's curriculum.

The purpose of the schools in a democratic society, as we say many times, is to develop voters with understanding. That has been the purpose of public schools since their beginning in this country. In spite of all the red tape, bureaucracy, and all of the other programs we go through, we still have to educate the masses if we hope to continue our way of life. In Tennessee, and probably in your state too, we are having a rough time trying to just maintain present services. We are being told that for any new programs we put in, we are going to have to find an equally expensive program to eliminate. I also heard Dr. Wilton Anderson, Director of Energy and Education of the U.S. Department of Education, say essentially the same thing about federal funds recently. Yet, we must find a way to incorporate energy education into our curriculum.

In Tennessee, we have a Title IV-C project on energy education. In this project we are trying to infuse energy education in grades K through 12 with what I would call an interdisciplinary curriculum approach. Rather than adding on a new course, we are working to make energy education a part of the existing curriculum. We are working in 20 school systems and each local system has developed their own individual plan within the guidelines of the project. We feel it is very important that each local system develop their own plans because they need to have an ownership in the project. We are now entering the implementation stage and a lot of systems have really been quite successful. We are quite pleased with the way many of them are getting along. Others are still struggling and not doing as well but we are optimistic that they will eventually be successful. Our three staff members have conducted needs assessments through surveys and onsite visits provide an opportunity to help schools with their plans and problems. One of the most important activities of the project is supplying materials to the systems. For example, a division of the Department of Energy located in Oak Ridge is the Technical Information Center which is referred to as the "World Center for Energy Education Materials." The Center has the greatest assortment and the greatest number of materials of any place in the world. About 90 percent of the materials come out of the United States, 10 percent from foreign countries. The Energy Education Project also works with the Tennessee Energy Authority, the TVA, the Department of Energy, the Oak Ridge Museum of Science and Energy and others to bring resources into Tennessee classrooms. We are trying to make energy education a community project through utilization of community resources.

I want to take a minute now and talk about something that is going to take place in Knoxville - the 1982 World's Fair. It is an official international exposition, fully licensed and approved by the Bureau of International Exposition in Paris. We only have about 180,000 people in Knoxville, but we are really proud, along with Gatlinburg, Oak Ridge and the State of Tennessee to host this World's Fair. The theme of the fair is "Energy Turns the World." Energy was chosen because of the worldwide attention and interest in energy and also because East Tennessee really is an important World Energy Center. Within an hour's drive of Knoxville are located the Oak Ridge National Laboratory, the University of Tennessee with extensive energy-related research, the TVA and Union Carbide Corporation.

World's Fair activities have already begun and one of the first events sponsored was an International Energy Symposium, one of a series of three that is planned. Over 50 leading energy experts representing people from all over the world - China, Russia, India, Japan, several countries of Africa and South America - as well as the western countries were present. We were privileged to be able to listen for three days to these people talk about the problems of energy. McGeorge Bundy, who chaired the first session, gave an example of what can happen when you really get together and plan and work on problems. He used an example of the Tennessee Valley Authority and what had happened in the Valley since 1930. He pointed out that it was an excellent way of demonstrating what we could do with planning, commitment, and effort. At the same time the TVA came to the Valley, most of the rural areas had absoluetely no electricity, and farmers were trying to eke out a living in red soil and ditches. Then, because of TVA, along came plenty of fertilizer, seeds, livestock, better farming conditions and, as a result, life has been improved there much more so than in most places in the country.

Times change, and the TVA has its problems today. A lot of people are questioning the policies, activities, even the leadership of the TVA. David Freeman, Chairman of the Board of TVA, spoke recently about education in the Valley. He said that the region's depressed economy at this time could be blamed in part on an undereducated work force. I quote, "Education is underrated, undervalued, and neglected in this region. Until we upgrade our educational system we will continue a cycle of poverty for many residents. Too many jobs will be filled by better educated people moving in from other regions." He went on to talk about economic development being one of the top priorities and he quoted figures saying that for one-fourth of the people in the seven state region, served by TVA, the average per capita income is still no more that 60 percent of the national average. As you know, TVA serves the Southern states represented in this conference. Mr. Freeman went on to say that in one-half of the counties in the region 50 percent of all workers did not attend high school and six of the seven TVA states ranked between 43rd and 50th in the funds that they earmarked for public schools. He also pointed out that technology, leadership, and any solutions to the energy problem will come from knowledgeable and educated men and women.

Another Symposium speaker pointed out that it is highly unlikely that there will be any new magic technological breakthrough in energy. There is no one solution that will prove to be more effective, cheaper, better than any other. So we must continue to move on all fronts and use all available ideas while considering economic and environmental costs. Over and over during this symposium we heard statements concerning our ecology, the atmosphere, and the many problems that we create as we try to solve the energy problem.

We all want a world where the sun shines, the wind blows, and animals play. New answers to our energy problems are the only way we can have this world. Programs of energy education in our schools must incorporate the knowledge we now have and encourage the search for new knowledge and those new answers we need. Energy education is basic and should be included in the core of every school curriculum. I challenge each of you to examine the curriculum in your schools and determine if energy education holds a high priority. As we look at current events and anticipate the future, Energy Education must be a part of our school program.

energy and education: facilities and curriculum

NILE O. McCRARY

One of the most important subjects that any of us will be dealing with in the next years is that of energy education and energy conservation. Mr. Roberts has given you an overview of the world in the past, some of the projections for the future, and other pertinent information relative to energy education, I would like to begin by thinking in terms of some of the waste and what we may do about that.

First, I want to talk about how we got this way, what we can do to compensate for some of the shortcomings which we now have, and about how we designed and constructed facilities that contribute to much of the waste we are experiencing today. Next will be a two part slide presentation. My concluding remarks, hopefully, will challenge each of us in elementary, secondary and higher education.

Changing Our Wasteful Ways

Today's Waste - A Ready Source

Americans are implementing energy conservation measures but it isn't easy. The road through technological development, luxurious living, and waste has been reasonably smooth compared to the rocky road necessary for real conservation of resources. Our efforts have made us more efficient users of fuels, metals, and minerals but our prevailing inefficiency in classrooms, kitchens, boiler rooms, automobiles, school buses, and society in general means that our waste may be one of our best sources of energy and materials. An American, it has been said, is one who saves resources by driving an eight cylinder automobile to deliver a bag of aluminum cans to a recycling plant. In the 70's attitudes and habits began to change but not so much because of attitudinal change toward waste as for economic survival.

"The richer a society is the more wasteful it seems to be," says Frank Huddle, a materials specialist at the Library of Congress. "America is by definition a wasteful society." About one third of America's energy is used to heat buildings. We have found that about one third of this heat is wasted through inefficiency. One home builder recently complained that buyers prefer luxuries to energy saving design.

The resources required by the American lifestyle are enormous. In one year, for example, the economy used for each person one half ton of iron and steel, 172 pounds of plastic, 55 pounds of aluminum, 9 tons of building materials. When all energy sources are added, Americans use about 7.5 gallons of oil a day.

Several studies by the Harvard Business School and the National Academy of Science suggest that up to one half the energy used is wasted through inefficiency. For example, energy using appliances could be redesigned for efficiency and two-thirds of the non-fuel materials could be reused without discomfort.

Much more could and must be done but it is my judgment that people, agencies and institutions are becoming concerned about the problem. A greater commitment to energy conservation is essential, however, or we may not see the year 2000.

Why Energy Conservation In Schools?

Few areas of the American way of life are as adversely affected by the high cost and periodic scarcity of energy sources as the schools, says Dr. Calvin Anderson, Director of Energy Programs, Jefferson County Colorado Schools. "Caught between inflation, declining enrollment, taxpayer revolts, and increasing energy costs, schools often are pressed to maintain their primary function - the education of children." Why is this significant? "While industries swiftly pass their cost increases to consumers, the schools cannot." Limitations on spending imposed by state legislatures, local fiscal bodies and taxpayers leave schools with fewer options. A reduction of educational programs and maintenance personnel and fewer instructional materials are usually considered and given priority over the more logical strategy of cutting costs through effective energy conservation.

What Happened?

Most schools were designed and constructed when fuel and electricity were both cheap and plentiful. We were told that the more electricity we used the cheaper the price. During a 20 to 25 year period following World War II, enrollments climbed rapidly and school districts built needed schools based on traditional energy use practices. Consequently, structures and mechanical systems were designed to achieve the lowest possible cost. Design criteria gave little, if any, consideration to long-range energy usage and costs so significant today.

Rising energy costs have led to a realization of energy-use shortcomings. Some of these include structures with excessive air leakage/and, inefficient equipment. Underpaid and inadequately trained maintenance and operation personnel have also contributed to unnecessary energy costs and adversely affected the environment for teaching and learning. Tennessee, like many other states, has minimum requirements for facilities to insure certain minimum levels but exercises no maximum levels; therefore, buildings generally have been overheated in winter and overcooled in summer. Most schools have been overlighted and inefficiently operated throughout the year.

The Approach to Cost Avoidance

Recent studies of the American Association of School Administrators indicate that building modifications can save up to 50 percent. By modifying the users attitudes and behavior patterns an additional 10 to 15 percent can be saved. I have generally found two distinct energy conservation strategies: (1) the people involvement approach and (2) the mechanical or technical approach. My preference is a combination of the two - a systems approach, for these reasons: (1) an immediate goal can be achieved, (2) a personal commitment and the goal can be achieved, and (3) the commitment, and energy conservation along with education and training can provide the motivation essential for renewing the moral and ethical values needed to resolve our energy problems.

Effective energy education and energy conservation requires a commitment and a plan. An effective cost avoidance program begins with a commitment. Cost avoidance simply means the avoidance of an increase over the present cost of energy of a given facility; therefore, two words "COST AVOIDANCE" should be displayed in bright distinguishable colors throughout the nation. When additional funds are required for energy expenditures, the money must come from funds that could have been spent on maintenance, teachers salaries, instructional materials, and construction. Consequently, this waste results in less funds for other programs that should have priority in terms of educating children.

Someone has said we may have conquered nature but we may have not conquered self. Schools spend about six percent on utility bills. We could save about 30 percent on retrofit and an estimated 25 percent on changes in operating patterns. Earlier in this presentation I suggested that today's waste may be a ready source. In the June 1980 Reader's Digest, a chart from the center for strategic and international studies, Georgetown Universty, shows "American's wasteful economic machine." The study shows a potential savings of 30 to 40 quadrillion BTU's annually from a total input of only 80.0 quadrillion. The article by James Nathan Miller also states that "last year, in a widely praised report, the Harvard Business School said that reclaiming this waste will give us the cheapest, safest, most productive energy alternative readily available in large amounts, the equivalent of the elimination of all imported oil - and then some."

Energy Management for Educational Facilities
A Slide Presentation:

A school board commitment and skillful leadership are two factors essential to a successful energy management program. Generally, school districts are engaged in two approaches to conservation. This slide presentation will show briefly some examples of each.

The first part deals with operation and management, and the second part deals with the things that we are doing relative to the National Energy Act, and that many of you are doing without the benefit of any of the National Energy Act funds. The Act deals with four phases: preliminary energy data surveys, energy audits, energy technical assistance audits, and the energy conservation measures or the retrofit phase.

Slide Narration

1. Title Slide.

Conservation

As authorities on the operation of the school plant and its energy usage, custodial and maintenance personnel should work with principals to encourage the faculty, staff and students to practice energy conservation.

2. Decals have proved to be successful in reminding people that lights should be turned off when not in use.

3. Encourage use of natural light when possible. It is not necessary to turn the lights on in this hallway since there is sufficient natural light. Lights in background are in an adjacent classroom.

4. Here is a case where a school is paying for unnecessary lighting in an unoccupied cafeteria.

5. Lighting should only be turned on during the time the cafeteria is in use and natural light should be used as much as possible. Note use of row lighting. Dividing the lighting into rows and keeping the row next to the windows turned off on sunny days is a good conservation policy.

6. Use of outside security and parking area lighting should be evaluated. Schedules for minimum use should be prepared and timers or photocells utilized.

7. Keep doors and windows closed to prevent air leaks from heating and cooling systems, but open them to use "free" cool air during the warmer months. Door

closers should be maintained for proper operation.

8. In heating season, blinds can be open during day to take advantage of solar gain and closed at night to cut down on heat loss. During periods when air conditioning is being used, blinds can greatly reduce solar gain.

9. Window air conditioning units should be covered or removed during heating months.

10. Exhaust fans should not be run when not needed since they cause a loss of conditioned air.

11. Schedule the use of special, nonessential equipment such as a kiln so that usage does not occur during peak load times, i.e., on hottest or coldest day of the year or when kitchen is in use.

12. When practical, schedule after school activities such as basketball games immediately after school.

13. Heat and light just the areas of the building that are to be used during after hours activities, such as conference and meeting rooms.

Retrofitting

Small and large retrofitting can effect a savings depending, of course, on projected life of building.

14. Weatherstripping windows such as this one which no longer closes tightly can reduce air leakage. Doors should also be checked for the need of weatherstripping or replacement with metal insulated doors.

15. In areas such as corridors, cafeterias, conference rooms, closets and toilets, lighting levels can be reduced and still be adequate. If replacing lighting, fluorescent fixtures are more economical than incandescent.

16. Instead of lighting a total area, consider installing task lighting as has been done for this bulletin board display. Task lighting also works well for teacher's desks, study carrels, drafting tables, shop tool areas and library book shelves. Note in the slide the use of a clerestory window to light a corridor.

17. Thermostat settings should be controlled by authorized personnel. The newer type guards are recommended since the old type still allows manipulation of the thermostat.

18. Providing larger water storage will effect a savings if peak pricing or time of day billing of electric power exists. Larger storage allows shifting of electric water heating load to an off peak time.

19. Installation of flow restrictors on shower heads can reduce hot water use greatly.

20. The installation of a drop ceiling with insulation can be cost effective especially on the top floors of buildings.

21. Evergreen trees left during construction or planted on the north side of a building serve as an effective windbreak and reduce heating costs.

22. Enclosures around the base of mobile units should be added to reduce heat losses through floors. Mobile units should be placed on the south or east side of a building with long sides running north to south. These units were well placed in the protecting L formed by the building.

23. Old style foundation vents to crawl spaces should be closed off in some manner during the heating season or replaced with the type of vent shown which has its own closing device.

24. On south, southeast and southwest windows, roof overhangs allow solar gain during winter and shade from solar gain at other times. The overhang shown is not quite long enough to be effective. It could be increased or deciduous trees to shade would help.

Heating and Cooling Systems

The area in which the largest savings can be effected is the HVAC system.

25. HVAC controls should be thoroughly understood by those responsible for their operation. A periodic evaluation of the system and its operating record should be made and the written operating procedure updated.

26. Many situations can be improved with the installation of zone control valves.

27. In many of the schools in which a hot water heating system was initially installed, zoning has been provided by the use of hot water circulator pumps. The example shown here has seven zone control pumps.

28. Fresh air intakes should be dampered during heating season and closed completely during nonoperating hours.

29. A preventative maintenance program is helpful in assuring proper burner operation and as a result, a fuel savings.

30. Boiler combustion tests should be run on boilers periodically.

31. Heating surfaces of boilers should be kept clean to insure proper heat transfer to heating medium.

32. A program should be established for the periodic cleaning or replacement of filters as needed to insure optimum equipment performance.

33. Radiator stop valves should be checked periodically for proper operation. A leaking radiator valve causes unnecessary heat build up in a room.

34. Seven-day clocks and override zone control timers provide a means to prevent heating and/or cooling during periods when building is unoccupied.

35. It is important to understand rate schedules and how your electric power bill is determined. Shown is a kilowatt-hour meter which also includes a demand (kilowatt) reading.

36. Credit Slide.

Energy Conservation Measures

In the area of retrofit opportunities we can do some things to buildings and save money but, in some cases, it will cost some money. As we move along a little further in the presentation, we find that even additional costs are involved. First, what are the objectives of the owner? One of the objectives is to improve and maintain student comfort and improve and maintain student learning environment. As we understand the objectives of the owner, the architect, the project architect or engineer, we can set some design objectives on a given project at the beginning of the project. Total energy management must begin with an energy audit. The audit begins with an examination of the facilities. Some of the things that are determined as essential in an audit are the systems, the building envelop, and the functional spaces. Some performance factors which must be considered are heat gain and heat loss, infiltration, transmission, ventilation, and lighting. Let's not forget some of the activities and the body heat in those buildings when faculty and students are there working. We will see some potential energy savings after we have analyzed the audit material.

Many of these things are being built into your school systems; many others could be included with a little investment. Much of it can be done just with the know-how of your maintenance and operations personnel with proper training. Often energy waste is due to air leakage, heat flow through inadequate barriers, and heat gains from solar radiation. Orientation exposures, type of glass, glass treatment and exterior treatment are feasible conservation measures.

Some other things that we can be doing include: infiltration and exfiltration, ceilings, and weatherstripping. It may be difficult to get the proper insulation into an existing roof; therefore, when it is necessary to replace the roof, it certainly should be considered and proper insulation installed. It has been proven that unless you are replacing a roof it is not feasible in many cases to try to get insulation within the roof itself. Here are some diagrams showing the angle of buildings and the angle of the sun and what can be done for shading, preventing the sun from hitting the building, air leakage through door cracks and ceiling penetration. This is an example of what has happened in Nashville, Davidson County, in the middle part of our state. They started with a window wall. What they did, in most instances, was to leave one window near each end of the classroom. Even with only two small windows they gained in air flow across the room because in the two windows that they left in the room, they left greater openings and more air could come through and move across the room to create a cross-ventilation. Here is another slide of the insertion of the panels that were placed where the windows came out.

This is another type building that shows a finished product as a result of the installation of the well insulated panels. What did we achieve as the comfort level result? We improved the U-values, keeping the room warmer in winter and cooler in the summer and reduced the window area plus added tinted glass.

Here is an example of a newer facility where we have earth berms pushed up around the facility to keep out the sun, cold, and heat, and yet provide the necessary exits for proper functional travel arrangement and also meet exit code requirements. We have another facility in our area under construction today that is going to be completely surrounded, except for the appropriate exists, with earth berm. We are looking forward to the completion of that one because we think it is going to be a tremendously important demonstration project in our area. Conservation through small ways and big ways!

In summary, we started with the maintenance and operations program which we could do on a small scale, but do it effectively with our own maintenance and operations staff. We then moved into the more costly and more technical aspects that must be done in order to create and achieve an even greater saving.

The Political Reality of Energy and Education

Obviously, energy is essential for a successful future and our large investments in energy-related technologies will determine where energy-related jobs will be. Richard L. Grossman, Environmentalist in Washington, D. C., acknowledged that: "It is not easy to predict the focus of tomorrow's major energy investments and, therefore, to know which energy-related occupations people should be preparing for today." - - - what I want to suggest here is that you might find it useful to acknowledge the very political nature of energy issues, to understand the manner in which jobs have traditionally been treated by energy policy makers; - - - to consider yourselves as actors in this situation - not bystanders awaiting direction or orders from somewhere on high! This involvement has helped Americans understand that increasing energy efficiency and development of renewable energy sources can create jobs and promote economic growth.

Elementary and Secondary Education and Conservation

Dr. Shirley J. Hansen, Energy Director, American Association of School Administrators, has stated that: "Today, people finally accept that a major energy dilemma exists." With that understanding, the serious business of education and training can be a positive and productive force. "Education and training by their very nature are future oriented." "The schools, then, are a natural to start laying the energy groundwork for the more specialized training to come." Dr. Hansen last February also said that "there is no better time for students to learn about energy than when the very walls around them are being modified to conserve energy." Technology and energy opportunities are changing rapidly and education at the elementary and secondary level is essential to providing the future work force with options in the job market.

A Profile of Energy Education Programs - Employment Opportunities

There is general agreement that the demand for skilled workers will come into focus during the 80's. However, vocational education personnel must have answers to three basic questions before vocational programs are updated. When? Where? And how many? Program changes will depend on resources available. A carefully planned needs assessment program should precede program revision. The American Vocational Association is already working with agencies, institutions, educators and the Department of Energy in an awareness program and in assessing current related activities, defining desired activities and developing strategies for change. I will not attempt even a for instance list of the hundreds of job opportunities now and in the future ranging from services to technicians to engineers. It is important to recognize that conservation is a first step. We cannot achieve our goal by producing and wasting more energy.

Good, efficiently managed, conservation programs create more jobs than would be created by constructing and operating new power plants. These job choices can better be made if positive and productive teaching and learning takes place at the elementary and secondary level. Administrators and teachers, however, must identify and maintain the following objectives: (1) an awareness of the need, (2) an interest in and understanding of career activities and curriculum needs, (3) essential instructional materials, (4) an appropriate community-school relationship, and (5) appropriate job entry level and understanding of future tasks.

In Tennessee vocational education has provided funds and support for a solar energy demonstration house. A federal grant to one area vocational school has resulted in the study of solar energy. Energy education for teachers in building trades and air conditioning projects has been initiated in still another location. Consideration is being given to possible development and implementation of energy related units within a vocational course for local maintenance and operations personnel.

In January 1980, the Department of Commerce released its "projected annual resource requirements at the national and regional level for the Department of Commerce energy forecast 1985 and 2000. Some of the significant projections are as follows:

1. Between 1977 and 2000, the cumulative capital requirements for energy projects would aggregate $1,620 billion (in 1978 dollars);

2. By 1997, the annual use of aluminum in developing new energy facilities would be 688,000 tons, compared to 96,000 tons per year in 1977;

3. Carbon steel requirements for energy facilities would rise from 6.6 million tons per year in 1977 to 8.6 million tons annually by 1997;

4. Engineers needed for energy facility design, construction, and start-up would rise from just over 33,000 in 1977 to almost 59,000 by 1998;

5. Electricians engaged in the development of new energy facilities over the same period would rise from about 18,500 to more than 57,000;

6. Energy-related water use would grow from 8.2 million acre-feet per year in 1977 to over 18.6 million acre-feet per year in the year 2000.

Challenge of the 80's

John Sawhill, Chairman of the newly created U. S. Synthetic Fuels Corporation, said in his keynote address at the First International Energy Symposium in Knoxville on October 14 "that the countries of the world must join together to solve energy problems." Therefore, we must talk and teach about the world's future - begin with information such as imports, production, total population, energy use, changes in technology, etc.

Education must play a major role in making critical decisions, informing the public and educating the uninformed.

Students should be told that we don't know all the answers - that problems are complex and they should be motivated to find out for themselves, consider future choices, know about the options.

Teacher training institutions should look critically at themselves - help to achieve minimal understanding, not only about energy, but water, etc. - to survive, we must see connections between energy, food production, technology.

We must emphasize changes in attitudes and strengths - new attitudes toward education and conservation.

We should reevaluate the way we live and work - not necessarily new lifestyles but new values - emphasize values, not gadgets.

Educational institutions should act as catalysts - work through students to reach parents; must be managed to reflect effective management practices - should teach conservation by example, resulting in the creation of a conservation-minded society.

A carefully planned systems approach to energy education and conservation should be developed and implemented. Systems approach is emphasized because energy education and conservation are related to people and things - school people, students, parents and other adults, responsible officials, business, industry, etc. - things such as buildings including components affected by heat, cold, wind, light, and other resources.

Success in the 80's will depend on procurement of good data, maintenance of accurate budget material and the active involvement of occupiers and users who determine energy use and savings.

Each state should have an energy policy, an energy network including appropriate state and local school district committees, and energy coordinator list, an information, dissemination and communications system.

Where possible automated energy management systems should be developed to include reporting and monitoring.

We should realize that the task is not glamorous; it may not be politically popular, but if educators are not willing to live with the decisions made by noneducators, we have an obligation to be involved, and to move forward knowledgeable and aggressively on all fronts.

In conclusion, public schools cannot and should not accept all responsibility - we must face reality together.

Democracy is a survival value!

If democracy is expanded the next generation will be wiser and more sensitive. Efficient use of energy can help to renew the moral and ethical values essential to resolving our energy problems, and increase the probability of human survival.

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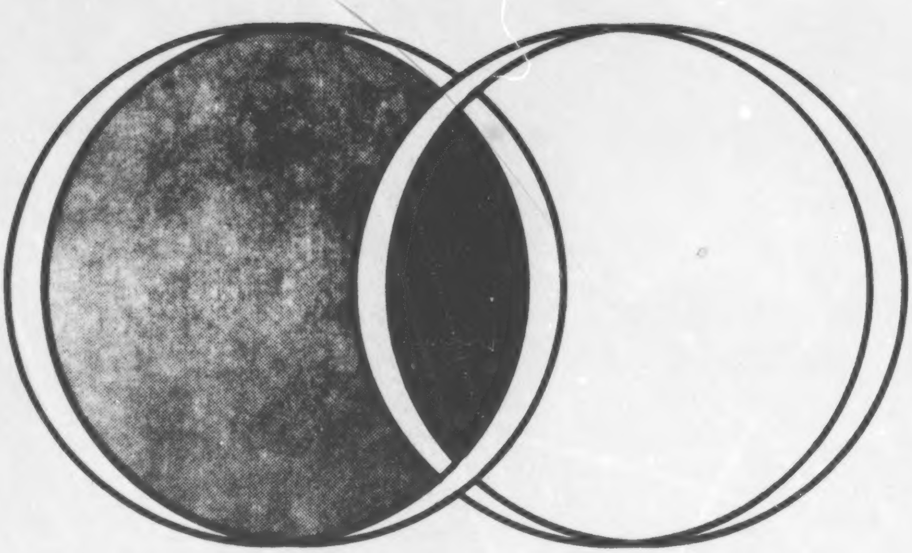

the computer revolution and its impact on education

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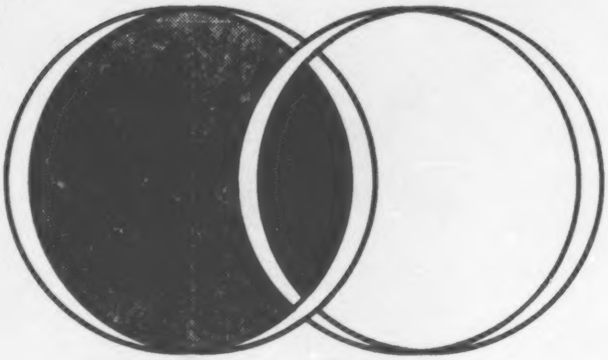


computer applications for education — vendors' view

microcomputers in education

GREGG SMITH

What I would like to do is address the question of microcomputers in education, and give you a brief look at what the history has been because it is crucial to understanding microcomputers. I would like to expose you to what Apple is doing in education, and then I have a few thoughts about what I think the key organizational and policy issues facing educators are.

When we talk about microcomputers, there is always a question as to what we are talking about because there are so many words, "micros," "minis," "maxis." A microcomputer, for the purposes of this discussion, is a system that stands by itself. It doesn't have to be tied to anything. It is self-contained. It costs less than $4,000. Most micros cost less than $2,000, but depending on what you connect to them you can get up to that number. They have to be programmable by the user - very important. They have to support at least one high level language.

Let's look at why microcomputers today? Where have we been - in terms of the instructional side of computing as opposed to the administrative side. I think that is the important area right now, and it is the area that Apple is particularly interested in. Well, computer assisted instruction began some 13 to 16 years ago. At that time there were five principal users in the historical development of the use of computers in instructional process. A few of these names are: "Development of Basic" on a GE time-sharing system at Dartmouth; Patrick Suppes at Stanford did much pioneering with basic skills, elementary students, and IBM equipment; and Don Bitzer, at the University of Illinois, was the inventor of the 'PLATO' system and developed that for some years until Control Data came along and commercialized it. Following these developers, large manufacturers came in and provided commercial versions, most notably in the period 1966 through 1976 such as IBM with Course-Writer III, Univac with Asset 1.5, and, of course, Control Data with Tutor and the Plato System. These are some of the principal manufacturers that promote computer assisted instruction (CAI) very heavily in the period 1966 through 1976.

There were problems with those systems. Why weren't they accepted more widely? Well, there were many factors that caused resistance to the introduction of what I call large scale systems. However, one of the things I don't think was a problem was the instructional validity. I think pedagogically they were generally accepted. Studies indicated that nearly every one of the major pilot projects in CAI provided a learning curve that was equal to or better than the existing alternative forms of instruction.

But the problems were these. The principal one was cost, twofold cost, not only the cost of the equipment, but the cost of programming for which you have to develop in specialized languages. Also, we have teacher hostility. One classic remark was, "That machine will never replace me." I think this was a problem because many of the early systems were designed to replace teachers, or at least that's what the general thrust was, to provide a complete tutorial program. Last, but certainly not least, was the availability of relevant courseware, the key word being "relevant" in the sense that you need courseware that a teacher could look at, feel comfortable with, and could relate to the integration of the particular curriculum that he or she had to contend with. Most of the courses developed were fine, but they were little gems, i.e., a little piece of this or a little piece of that, and they didn't relate directly to the curriculum. I feel those negative factors - contrasted with the general acceptance of computers in society and computers as an education device - set the stage for the development of the microcomputer revolution.

Let me show you the dynamics of the growth. In 1975, there was nothing in terms of micros. There was a small hobby company called MITS, and they produced what we generally accept as the first microcomputer, which was a kit you put together yourself. No peripherals, no languages, nothing. Out of that early effort followed three principal manufacturers: Apple produced the machine called the Apple II; Tandy produced the TRS-80, and Commodore Business Machines came up with a machine called the PET. Today, Apple is the leader based on dollar value, and Tandy is probably number one in units installed.

In terms of the industry's growth, it is important for people in education policy making to extrapolate these curves into the future. What kind of policy should we have that copes with these dramatic educational inroads? In 1976-77 there was nothing; there were practically no computers at all in the micro class. By October 1979, the industry was shipping something like an excess of 25,000 units per month. We are estimating that at least 20 to 30 percent of those units go into education today: Apple's big market, as well as Radio Shack's big market. We feel strongly that by the end of the eighties for the majority of the people in this world their principal exposure to computers will be via micros. To give you some other numbers, there are about 600,000 units out there right now. Radio Shack has over 200,000 units. Apple has well over 150,000 units. If you take all the other manufacturers combined, there are probably another 150,000 units. With roughly 600,000 units that are out there right now, and with 25 percent in education, leaves about 150,000 in education today. The growth and the dynamics of this activity are truly dramatic. The Executive Director of the Minnesota Educational Computing Consortium estimates over one million microcomputers in education by 1985. I suggest that that is a real number you ought to take home with you.

In terms of microcomputers, how are they being used and where? The principal applications (there are great variety to them) are in the elementary area for remedial math programs, and the high school level for computer literacy and teaching programming.

Let us take a look at another facet. In 1978, all we had was contributed software, that is, people who develop something and offer to share it with others. Well, by 1980, the installed base for microcomputers had become so large that it excited the interest of the publishers. I will not go into the various applications, but they range from critical reading skills to administrative and record keeping applications.

Regarding computer languages, Basic is far and away the most used language and will continue for the next five years, maybe even ten, because of the developed base. Pascal is beginning to be accepted in computer science departments, particularly at the university level, to teach basic programming skills and rational thought process. Of course, you are all familiar with Fortran. Pilot is a language that has been around since 1973, but has been enhanced numerous times, and I have to believe that it will be the most significant or one of the most significant true CAI languages for microcomputers over the next ten years.

In terms of computer assisted instruction mathematics is the primary activity, with science next. We have all the facilities on micros that you do on the larger machines in terms of branching and the various capabilities necessary to have a superior environment. Regarding administrative applications, everything the large machines do, the small machines can do only in smaller terms. Communications is an area that is under-utilized and not understood very well, but we are seeing the application of microcomputers being used as intelligent terminals, particularly at the end of communications networks in state and university time-sharing networks. Some of the features of Apple I think important to educators are probably in reverse order. You can evaluate them either way. I feel reliability and expandability count more than color and sound. The benefits are obvious. In terms of our products Apple has a full line of products, as do all the other manufacturers, incidentally. There is nothing specific here except for the graphics tablet that is unique to Apple. We have lots of peripheral devices. In this particular area, there is interesting work being done on musical synthesis and the teaching of music, voice synthesis and voice recognition, and, of course, for administrative applications. Pilot is a language you ought to be thinking about or looking at in terms of what is going to happen for the future. Pascal for those of you who are university-based, I think, is a significant one.

We have a significant commitment in Apple to education. We produce a whole series of literature and support materials to support educators. We also have developed an educational foundation that supports new methods of learning. The primary goal is not to sell computers, but in fact to support the educational process. To date, we have funded some 88 projects, even though the foundation is only twelve months old. There is some activity at the Lawrence Hall of Science.

Slide/Tape Presentation: Tools for Tomorrow

Uses of Computers in Education

- Computer Literacy
    - What is a computer?
    - How does it work?
    - What impact do computers have in our daily lives?
    - How to program computers
- Computer Programming Languages
    - Basic
    - Pascal
    - Fortran
    - Pilot
- Computer Assisted Instruction
    - Mathematics
    - Science
    - Reading
    - Language Arts
    - Music
    - - All Subjects
- The Ultimate A-V Machine
    - "Intelligence" Provides New Capabilities
        - Interaction
        - Branching
        - Remediation
        - Real-time Problem Solving
        - Modeling

Education Products

- Apples' Full Line of Products
    - Disk Drives
    - Printers
    - Displays
    - Communication Devices
    - Graphics Tablet
- Outside Vendor's Products
    - Music
        - ALF
        - MMI
        - MTN. Hardware
    - Supertalker

- Mark Sense Readers
  - Chatsworth
  - Scantron

Apple Software for Education

- Apple Pilot
  - Produce Computer Assisted Instruction
  - Unique Graphics and Sound Capabilities
  - Easy to Learn
  - Use as First Programming Language
- Apple Pascal
  - Language of the Future
  - Used for Teaching at over 400 Major Colleges and Universities
  - Full System, Based on UCSD Pascal
- Shell Games
  - Create True/False, Multiple Choice or Matching Quizzes
  - No Programming Required
  - Extensive Instructions Included
  - Engages Student Interest
- Fortran
- Education II

The Apple Commitment to Education

Literature

- Apple Magazine "Computers in Education"
- Apple Education News
- Education Information Booklet

Apple - The Educator's Choice

Minnesota Educational Computing Consortium

- Serves 97% of all State Educational Facilities
  - Elementary
  - Secondary
  - Colleges and Universities
- Tested and Benchmarked all Micros
- Chose Apple II: 1978
  1979
  1980
- Over 1000 Apple Systems Installed
- Communications Network
  - Centralized Program Library
  - Upload/Download to Apples
- Chose Apple for
  - Economics
  - Reliability
  - Color and Graphics
  - Communications Capability

Lawrence Hall of Science University of California - Berkeley

- Nationally Respected West Coast Science Education Institution
- Pioneer in Computer Education
- Moved to Apples for
  - Portability
  - Reliability
  - Color, Graphics, and Sound
  - Manufacturer Support
- Uses Apples in Schools and Museum
  - "Apple Cart" Van takes 15 Apples and Instructor to Elementary and Secondary Schools on Weekdays
  - Apples Available to the Public on Weekends at the Museum

State Adoptions of Apples

- North Carolina
  - Department of Education
    over 1000 Schools
    88 Community Colleges
  - North Carolina Educational Computing Service
    Large Scale Timesharing System
    and BOTH Chose Apple!

EDUCOM

- Nation's Largest Educational Computing Consortium - over 300 Universities
- Operates "EDUNET" - Network of 16 Large University Computers
- Chose Apple for Network Access

International Educators Chose Apple

- Canada
  - Province of British Columbia - Ministry of Education
- Mexico
  - Monterrey Institute of Technology
    Installed Over 100 Apples
- Europe
  - Institut Für Informatik, Zürich, Switzerland
    Prof. Nicklaus Wirth, Inventor of Pascal
    55 Apples Installed

Apples Are in Use at:

- Brigham Young University
- University of Minnesota
- Dartmouth
- Massachusetts Institute of Technology
- University of California
- University of Michigan

- University of Texas
- University of Florida

...and thousands of elementary/secondary schools and other colleges/universities in the United States and around the world.

Tools for Tomorrow - Today From Apple Computer

the public education/private sector partnership

T.W. MILLER

On behalf of Control Data Corporation, it's my pleasure to speak to you today on the theme of this conference - The Public Education/Private Sector Partnership. I'd like to talk about that and also concentrate on Computer Applications for Education.

"Partnership" is a way of life at Control Data; indeed, it is the norm in our business philosophy, not an exception. For very early in our corporate history, our chief executive officer, William C. Norris, foresaw the tremendous benefits "partnerships" would have to Control Data and business in general.

Many business analysts and writers have criticized our education strategy. It includes: (1) massive investments in courseware, (2) seed money for the establishment of small businesses, (3) cooperation with government to provide jobs in socially depressed areas, and (4) education and training for the gifted as well as handicapped and disadvantaged. In spite of our critics' opinions, we adhere to our commitment. The opportunity and challenge we face suggests to us that it is good business to do so. Hence, we have established, probably more than any other company in America's recent history, a "tradition" of both partnerships, here at home and internationally, in both the public and private sectors, which encourages a "spirit" of mutual cooperation and joint responsibility.

Our partnerships in the public sector go back as far as the late sixties in business areas other than education, only about ten years after Control Data was incorporated, when we established manufacturing and training facilities in three socially disadvantaged communities - Camden, Kentucky; Northside in Minneapolis, Minnesota; and Inner City Washington, D. C.

At Camden, Kentucky, we cooperated with the community to create a manufacturing plant. Camden was then one of the poorest counties in the United States. We provided education, training, and jobs to individuals who were third generation welfare recipients. At first, the plant produced simple and rather mundane items for computer systems. We soon discovered that the opportunity to enjoy productive work was such an incentive for these workers that plant management then desired to expand the scope of their employment offerings and products. Within a few short years, the workers at Camden were producing precision components in a highly complex and technical environment. We found that the plant, in terms of overall performance, was equal to any in our manufacturing system, and remarkably, absenteeism and tardiness were minimal problems, comparing well to our corporate average.

All was not easy during this period. We had cases of vandalism, theft, bomb threats, and so on. However we were persistent in attaining our goal at Camden and we worked our way through these problems. By the way - those of you closely associated with inner-city can relate!

Also, in the latter sixties, Control Data acquired property in the inner-city area of Minneapolis. As part of a governmentally cosponsored, urban, jobs-oriented program, we built a training school and manufacturing facility in the Northside community. Local people were hired. We provided them with remedial education, followed by technical training, and employed them in the plant manufacturing computer subassemblies. Like the Camden, Kentucky plant, Northside has always held its own in terms of productivity.

At approximately the same time as that of Camden and Northside, a comparable facility was established in Washington, D. C. This "capitol facility" has been a source of training, largely through the cooperative efforts of our Control Data institutes, and jobs for literally hundreds of inner-city Washington, D. C. residents. The results have been the same there as at Camden and Northside, again - not without problems along the way but we are very proud of our efforts, . . . and results.

The workers at our capitol facility have demonstrated that given the opportunity for education, training and employment, they will respond by becoming productive taxpaying citizens rather than tax-absorbing welfare recipients. Business, communities, and education can work together towards this kind of goal. It can work!

Over the years, Control Data has also formed numerous partnerships in the private sector and with foreign governments. These have led to our involvement in many new markets, which has ultimately meant more jobs for American workers.

In the private sector, for example, we joined with National Cash Register in the early seventies to develop new peripheral products for our computer industry. Our agreement led to the jointly owned company "Computer Peripherals, Inc." in 1972. Then in the mid-seventies, International Computers, Ltd. joined with Control Data and National Cash Register to expand Computer Peripneral's manufacturing and research and development operations to Great Britain.

Internationally, we have formed many beneficial partnerships. We opened an institute for training computer technicians and programmers in Frankfurt, West Germany, in the late sixties, which soon led to a cooperative effort with the Hungarian Government to inaugurate a computer science teaching capability within the Hungarian Vocational-Technical Institute. Control Data trained approximately forty-five instructors and provided them with curriculum materials, training plans, and management assistance. The Institute has long since surpassed in volume the Frankfurt Control Data Institute, graduating some 7,000 to 8,000 students per year.

Control Data has engaged in joint ventures to manufacture large computer systems in Canada, peripheral hardware in Romania, card-punch equipment in East Germany, and training institutes worldwide. The list of our cooperative efforts could go on and on.

Why has Control Data invested so much energy and resources in partnerships? In simple terms, cooperative efforts are a good way to do business! They allow, for instance, joint use of each partner's technical "know-how," licenses, and documents, which would not normally be available to the other except through a partnership. In addition, they allow use of existing human resources and production facilities, without requiring excessive investment beyond the capabilities of one of the partners.

Back to education, . . . have you ever considered where research and development funds must come from? Control Data cannot do it without partnerships. The funds, facilities, and human resources to conduct research, apply it and organize it are enormous. Cooperation with learning institutions, government and other companies is a cornerstone in our strategy.

In the case of our partnership with the University of Illionis, our combined efforts have produced a superb educational product, the Plato System, a highly sophisticated computer-based-educational system.

We have also gained in other ways from this partnership tradition. For instance, we have learned that the most productive and successful partnerships extend beyond one, two, or even five years. All the partnerships that I have described to you this morning have been successful and productive, largely because they've had the time required to produce meaningful results.

By now, you have probably noticed that partnerships with organizations like those most of you represent - public schools, libraries, and state education associations - are absent from the list of examples I have shared with you. Control Data has had only "limited success" in establishing cooperative efforts with groups such as those you represent. Yet, we believe that the potential for partnerships is there.

Most of you will no doubt leave this conference having learned more about how computers can be part of your organizations. Why? Better teacher productivity; better quality education; more individualized instruction; help in remedial areas; help in gifted areas; help in handicapped areas. It is becoming clear to us that the next need from education may indeed be "computer literacy." The quantum leaps in technology within the past ten years have provided vast improvements in the quantity and accessibility of information. Our society is absorbing that. Having access to information and managing its role in our future is a major challenge upon us today. Arthur Lewis stated in your Conference Newsletter the following . . . and I quote:

> "The nagging question is what will happen to children who grow up in homes without a computer? We already know children from homes where there are few books have more learning problems. The absence of a computer will widen the educational gap and the . . . disparity that follows between the affluent and the poor will spread even further."

Great strides have been made and are continuing to be made in computer-based-education, which will allow us to close the gap. We now have the means to bring higher quality, less costly, and more accessible education to those who need it most. Recently, Control Data announced the high school and basic skills program and a plan which is capable of, in William C. Norris' words, "A massive attack on the problem of inadequate education and training for the disadvantaged." This will require a solid partnership between educators, government, local communities and Control Data.

We believe that there's an opportunity in public and community education, an opportunity for teachers, students, Control Data, and American society. I'd like to share one of our success stories in public education with you. We have some slides and a story of success to illustrate what I've been talking about.

Walbrook Sound/Slide Presentation

Our success at Walbrook is not simply a triumph for Walbrook and Control Data, but one that belongs to educators and many people. It has far reaching implications for the quality of education in many areas.

Perhaps you are considering computer technology to be applied in your area.

Think about the fact that only 20 percent or less of the real cost is hardware.

Eighty percent is application and courseware cost.

Think about your overall needs and key off of a sound plan to effect solid solutions.

Think about that partnership you need with your constituency and vendors on a long-term basis.

Think about the permanence of all this. Your decisions can solve the problems at hand.

In my view, computer technology and education technology have some common areas of application:

We are really talking about a systemic solution.

Education teaching disciplines are involved.

Education strategies are involved.

The solutions are comprehensive and each part of an approach must fit clearly together.

Permanence.

Be sure that your materials will work on tomorrow's computers and that they will be quality materials periodically reevaluated and improved to meet the challenges of the day.

Let me give you an example. Control Data also recently announced the Micro Plato Station. The Micro Plato Station is the latest offspring of the Plato System. It delivers instruction that is stored on a flexible disk, physically resembling a 45 rpm record, and does not require a connection to our Central Plato System. The Micro Plato Station does, however, allow users to utilize the Central Plato System when the power of a large computer system is needed.

Moreover, Control Data is applying our Central Plato System prompting and computing capabilities to develop author instructional materials for use on other microcomputer systems. Including those made by Apple, Arari, and Radio Shack. This system requires no knowledge of any programming language to create or author instructional materials and tests.

Naturally, we cannot transfer all of the Plato System delivery capabilities to these other microcomputers. Resolution is often reduced, touch capabilities may be lost, graphic and answer judging capabilities can be considerably restricted and record keeping is not always possible. But the biggest plus of this new Plato System capability is the ability of any instructor to create instructional materials quickly and efficiently for microcomputers that may already be present in the school.

The development of micro plato and the existence today of our education network demonstrates Control Data's commitment to permanence, compatibility and future developments within education.

Before closing, I would like to say a few words about the rudiments of a partnership that exists in Florida today, between Florida State University, twelve Florida high schools, and Control Data. Some of you may know of this project, even be involved in it. The Florida State Plato Project was initiated in response to that University's concerns over minimum competency. Many students couldn't pass the minimum competency requirements set forth by the state of Florida. In cooperation with Control Data, which provided terminals and access to the basic skills learning system, Florida State University field tested the mathematics portion of our Plato basic skills learning system during the 1978-79 school year with Paxon Senior High, Jacksonville; Sarasota Senior High, Sarasota; Glades Central High, Belle Glade. The results of the field test were very positive.

The median gain for all students was 1.5 grade equivalents after spending only an average of twenty hours in the Plato lessons, which normally take 150 hours via traditional instructional methods. Details on the results of this project are documented in a public document titled "FSU Palto Project, Basic Skills in Math for Florida High Schools, Final Report," July 1979, available from the FSU Computing Center. An interim report generated so much interest that the project was expanded two more years, beginning with the 1979-80 school year, to include twelve high schools. The project is now funded by a state legislative grant continuing as anticipated, with excellent results.

Based on the success of this project with local high schools, FSU and Control Data began, just this fall, a similar program in six Florida Community Colleges. To open admissions policy adopted in the state of Florida results in a need for review or sharpening of basic and high school skills for some beginning community college students. We've placed Plato terminals in each of the six community colleges and are using our basic skills and high school skills learning systems in an attempt to meet these needs. FSU and the State Department of Education will be formally evaluating this new PROJECT.

My purpose for mentioning the Florida State Projects is really quite simple: such partnerships are necessary and they work to the benefit of both parties.

Courseware is not easy to develop. It requires a substantial effort to systematically gather, select, sequence, and verify subject matter. There must be pilot tests, formative and summative evaluations, and ongoing evaluations and revisions with both content experts and subjects from the target population. Even simple technical and mechanical quality checks, such as checking spelling or test answers, or clarifying instructions is quite time consuming, and consequently, expensive. But they are essential, necessary tasks to ensure the quality of products and students' success.

Computer managed instruction techniques are equally important and again must be integrated into the overall learning experience.

As I have stated, Control Data is committed to the development of a TOTAL EDUCATIONAL SYSTEM, INCLUDING ALL THESE ELEMENTS.

Control Data isn't the only organization you might consider as a partner. But when you consider the significant problems you face, consider your potential for significant benefits. Consider the features, advantages and benefits of products, systems, courseware, and CMI available. There is a great opportunity and satisfaction for all of us. THANK YOU.

tsc's impact: computerized instructional and information systems for education

JOLAINE HARBOUR

TSC's only market in the United States is educational agencies and institutions. Priorities established by schools and government agencies include comprehensive career guidance programs to prepare students and adults for productive employment and effective instructional programs that provide for the needs of those students needed to further their education and become gainfully employed. TSC's role in meeting those needs has been focused on two areas: providing computerized instructional systems for basic skills training in math, reading and language arts and providing computerized guidance information systems containing comprehensive national, state and local data on occupations, colleges and sources of financial aid.

The Total Academic System is a computer-based instructional system consisting of three programs that are field proven to be effective: STRIDE Reading, STRIDE Math and STRIDE Language Arts. The STRIDE programs were developed by educators to support and supplement local curriculum needs in these three subject areas. Each STRIDE skill can be correlated to the school system's local behavioral objectives to provide better coordination with its teaching resources. STRIDE works with the teacher. STRIDE manages and maintains student progress which allows the teacher more time to give personalized instruction. STRIDE also gives the teacher the flexibility of referring students who need additional instruction in a particular drill to locally correlated resource materials. STRIDE is designed to help individuals master basic skills through a competency based approach that is reliable, motivational, individualized, prescriptive and effective.

While the student interacts directly with the computer at an individual terminal, STRIDE identifies basic skill deficiencies through a series of tests. Drill and practice on specific skills with immediate feedback is provided to promote mastery. The STRIDE programs diagnose competency levels on an individual basis and can be used with any age group. While the teacher guides and monitors the students' progress in the classroom, STRIDE does the drill, practice, testing, reporting and record keeping.

STRIDE's skills and its management system were developed to help teachers individualize skill instruction and keep complete and accurate records of each student's progress. Through the management routines the teacher has access to individual student reports as well as group and class reports. These reports help the teacher to share with parents and administrators, those skills the students have mastered, what the teacher's instructional plan is, and those skills on which the students experienced difficulty. Also, a special narrative report is available to help communicate progress to parents.

Since its introduction in January 1980, TSC has placed the system in five school districts in the southeastern region of the United States. These districts include: the Memphis City Schools where STRIDE Math is used in Title I math labs in twenty-four elementary schools; Marion Public Schools in Arkansas where STRIDE is used at the middle school level for math and reading; Greenville Municipal Separate School District involving elementary and middle school Title I labs for math and reading; Gibson County Schools in Tennessee where STRIDE Math and Reading assist ninth grade students in Title I labs and Coahoma County Schools in Mississippi where a network throughout the county system serves seven middle and high schools.

TSC provides several unique features that impact the ongoing instructional program. First, TSC emphasizes close coordination between the computer-based program and the instruction a student receives in the regular classroom. Teachers participate in the in-service which focuses on ways the system may be used to establish effective means of communicating student needs and progress; planning for instruction; grouping and regrouping students for instruction and utilizing available resources. The design of the system is flexible enough to fit the variety of teaching strategies found in the classrooms.

In addition, the Total Academic System impacts on administrative concerns such as accountability, test scores, and cost effectiveness. First, the system provides records on each student's progress. TSC can provide documentation in the form of studies that prove that the system is effective in raising achievement test scores. Typical student gains average two months for each month of instruction. Computers for instruction are cost effective. For example, a lab that serves approximately thirty students per hour staffed with one teacher can serve sixty or ninety students per hour more effectively with one teacher for the same per pupil cost. In addition, the cost will decrease, rather than increase, approximately 75 percent after initial lease/purchase of the equipment.

It has been my experience in talking with schools in the Southeast that the competency based model addressed in state compensatory education plans matches the design of the Total Academic System's instructional programs. Schools required to implement innovative programs to meet the priorities established in these plans are considering TSC's instructional system.

The Guidance Information System, developed by professional counselors, is acknowledged to be one of the most up-to-date, comprehensive, and useful sources of occupational and educational information available in the United States. The Guidance Information System evolved from concepts and experiences developed in a project conducted at Harvard University under the sponsorship of the United States Office of Education. This project, the Information System for Vocational Decisions, was a three-year effort begun in June, 1966, by Dr. David V. Tiedeman, Professor of Education at Harvard. Several faculty and staff members associated with the Harvard project subsequently initiated an independent effort to further develop and implement an inexpensive information storage and retrieval resource for schools, resulting in the introduction of the Guidance Information System. At present the system is being maintained and further developed by TSC.

The Guidance Information System (GIS) is a service providing instantaneous remote access to college, occupational, and financial aids data. Through a conveniently located terminal users may type simple commands requesting certain information. The computer responds immediately by typing the desired information from permanently-stored data files. In this way each user can interact in a unique manner with the vast amounts of information available. The GIS makes it possible for a user to examine the ways in which his/her personal criteria for selecting colleges and occupations affects the range of options available. The GIS allows a user to see not only the results of choices and decisions he/she has made, but also to compare those results then and there with the results of other choices. This places the decision-making where it belongs, with the user.

The intention of the Guidance Information System is not to provide a matching or placement service, but rather to close the communication gap between the facts and those who need to know them for effective decision-making. GIS is not meant to be the final or sole source of career information. Rather, it is a dynamic tool which will increase the value of other resources by suggesting a direction for further exploration based on the user's needs and interests. Because the computer is playing the role of "data disseminator," counselors are free to play the more important role of "data interpreter" and to deal with the personal and academic concerns of their clients.

Recognizing the critical need to provide career information to young people, the U. S. Department of Labor initiated the Occupational Information Systems Grants Program in 1976. Eight states were funded to develop extensive information delivery systems designed to provide local occupational and educational data to those in the process of career exploration and decision-making. In several of the states funded, the GIS was chosen as the basic information delivery vehicle. Alabama was one of the states that based the delivery system on the GIS.

From the experience of developing local data files with the GIS states, TSC is in a unique position to meet the increasing demands of users to supplement the national GIS data base with regional information. Thus, the development of GIS Options which gives users access to a system that can provide national career information, as well as locally relevant information about occupations, vocational training schools, sources of financial aid, local business and industry, etc. Comprehensive data bases, methods and controls in information gathering, programs to implement user services, in-service training, publication design, standard programming for a variety of computer systems, as well as timely delivery have made GIS Options a leader in this important area. Files presently used for the delivery of local information include: SOC-Based Occupational Information, Services for the Handicapped, Women's Services, State Apprenticeship, Local Business and State CETA.

Presently the GIS is used in major areas throughout the southeastern United States. These include: DeKalb County Schools, Georgia; Pinellas County and Pasco County Schools, Florida; the State Occupational Information Coordinating Committee, Alabama; Pulaski County Special School District, Little Rock, Arkansas; University of Tennessee-Chattanooga, Tennessee. Recently, the State Occupational Information Coordinating Committee in Louisiana, voted to adopt the GIS as its state delivery system. In all, approximately fifty school and university campuses use the GIS in the southeastern region. Nationwide TSC has more than 3,200 sites using the GIS. Sites include middle and secondary schools, vocational schools, community and junior colleges, two and four year colleges, Employment Service officers, state vocational rehabilitation centers, adult counseling centers, CETA agencies and corrections institutions.

TSC can impact on three million people during the course of a year. The dimension of the impact carries with it the responsibility to provide and maintain data of excellent quality that is understandable and up-to-date. It is to those ends that TSC has dedicated its resources. When you consider that over the past ten years 95 percent of our customers have maintained their relationship with us, we are confident that we are meeting their needs and fulfilling our responsibility.

computer applications for education – vendors' view

RALPH L. STERLING

You probably ask why a publisher would be sitting up here with all the technology involved, but I would like to point out that as a publisher we are looking for many different ways to deliver educational systems, or deliver education. It is all a part of the growing technology. We made a commitment as a company some ten years ago to get involved in this technology and that is why Jolaine Harbour was here representing TSC, which is a Houghton Mifflin Company.

Quite frankly, ten years ago we weren't sure where we were going, but we knew that we were already in the area of time sharing and developing programs for the schools. We thought that was our foot in the door to find out what is going on. Then we began to see other areas, such as in the development of textbooks. As publishers, we really have been slow to use technology. We were using very antique methods for preparing type until just a few years ago when we went into photocomposition, computer typesetting, and things like that. Then we began to look around and ask what kinds of things there are that might help teachers in their daily chores.

About ten years ago, we became involved with accountability in many different ways through management systems. We saw a proliferation of those, particularly in the areas of reading and of mathematics, where teachers were doing a tremendous amount of paper work. In those management systems, teachers have a series of many activities and things they must do, and they were overloaded with paper work, testing, and grading tests. Some four or five years ago when we started developing a new math program, we said, "Let's see if we can use the computer and develop a textbook at the same time in which we can take some of that load off teachers." So we said we would get into this area ourselves as opposed to what our subsidiary TSC does, which is computer assisted instruction. We wanted to see if there was something we could do to help the teacher with this management problem.

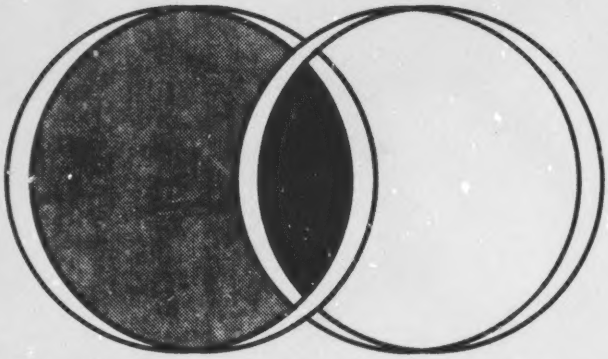
What I want to talk about is completely opposite of what most people have talked about, computer assisted instruction, where the student actually is involved. What we want to look at for just a few minutes is computer managed instruction. When we started with computer managed instruction, one of the problems we had very early was that the management program did not fit a particular series or program. There would be a series of identified objectives, and in many cases you were testing things in a different order, or you would discover that some objectives were not taught in that particular program. Teachers had to make a commitment each day to be certain that those objectives were what they were teaching. Some teachers felt they had to skip around in the book. Others followed the book and then tried to test, and that became a very difficult task for everybody. So we set out to develop a texbook series which has all the attributes which make it possible to manage it with a computer. Therefore, we were talking about a program - specific approach rather than one which meets the needs of several different programs. When we started, we asked, "What are some of the things teachers need if this is going to work"? We concluded two things at least are basically needed. Every lesson has to have a single objective, and there should be adequate follow-up activities. First, you have to be able to test each objective alone if you are going to work with it. You can't have a series of five objectives and then try to test all five of them in maybe five questions. So we zeroed in on a specific objective for each lesson and then tested that objective. Then, once you have tested it, then you should have some opportunities for the student to follow-up, either in remediation, additional practice, or enrichment, and you must have those for every lesson or you are going to miss out on something. I am sorry to say textbooks were not designed that way when we first started. If you tested the objective, you didn't always know where you were going to go to find additional materials. So we felt that was very important.

Once we got these ideas in mind and developed the textbooks this way, it became a very easy task, we thought, to develop a computer managed instruction system. Well, I think that any of you who have worked with computers know that that is not always as easy as one would think. We kept on developing the program, and placed it in the field for two years in pilot sites, and kept refining it. Finally for the first time this fall we had an operational system that we could sell.

What I would like to do in this short time, is give you an idea of our computer managed instruction. I'd like to show a videotape made at a couple of the pilot schools. What we did in seven sites throughout the country was to work with the schools to develop this program. I want to make one note very quickly, even though I'd like to take credit that computer managed instruction did everything for the kids. When you see some of the results, to be very fair, there were three elements involved. One, there were good teachers and good administrators who were committed to better instruction. That's important. Secondly, they used a textbook series which was designed to follow the management system. And thirdly, I think the management itself took the load off the teacher so the teacher could spend more time in a classroom teaching youngsters. I would point out that we have a system set up in the exhibit area, and hope you take the opportunity to come by and see some of the reports that are generated. At this point I'd like to turn to the video presentation.

Videotape Presentation

Let me close with one quick comment. Again, I want to point out that there was a good group of teachers who were working with those youngsters, and that was important. It is impossible to do that without them. Secondly, we now have the management program available for both math and reading, the two skill areas that are of most interest in the public schools today.



national and state computer networks

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PAUL S. HELLER

In my presentation today I am using a fairly conservative technology, so there's a chance it may continue to work throughout the session. Let me take a minute to describe what will happen in the next 29 minutes. If you have a burning question at any time, do let me know because I may be very much off the track of what's important to you and if I can get back on track, I think that's worth it.

Let me describe the organizational environment in which EDUNET is located which, I think, is important particularly for the theme of this conference and the Southeastern Council. It is a consortial activity and one thrust that runs through all of the activities at EDUCOM and EDUNET is that they are consortial. They are multi-organizational. We deal primarily with higher education, though not exclusively, and I think that some of the experiences we've had may have some direct parallels in the audiences with which you deal which may only involve higher education to a limited extent. EDUCOM is the nonprofit corporation located in Princeton, New Jersey, that was formed in 1964 by a group of seven schools, primarily in the medical area. The group was formed to look at how technology of various types, computing, communications and instructional television, a full range of technologies, and how they can be used more effectively in higher education.

Since 1964 EDUCOM has had associational activities which are fairly typical of an association which has institutions as members, and it also has a number of special projects. One of the special projects is EDUNET. Let me, in just a minute, describe some of the others so you can appreciate the context. There's another project within EDUCOM which is called EFPM, the EDUCOM Financial Planning Model. Some of you may have heard of this. It's a computer-based system that's available through EDUNET but it differs from most of the other resources in EDUNET in that it's developed by a group in EDUCOM. EDUCOM also conducts funded research using NSF and other federal and private foundation funds.

EDUNET is an activity within EDUCOM, and, in a sentence, it can be described as a national facilitating computer service network. The word facilitating is probably the key word in that EDUNET itself does not own or operate any communications equipment nor any computers. What we do is facilitate remote access on the part of faculty and staff at the schools that are members of EDUNET. We work with them to access computing products that are already available at a group of our schools which serve as suppliers. The schools that act as suppliers include: [Insert 1]. As you can see, they tend to be the schools that might be considered to be computer-wealthy, in some sense. Many are research intensive, but certainly not all, and include both public and private schools throughout the country. The kinds of computer equipment is not really the reason that EDUNET is in existence. The primary force behind our service is not access to hardware but access to software. The expensive component to computing is the software. The cost of a connection between a user, say a user here in Orlando, and a supplier computer has gone down in recent years. Earlier, if they had wanted to use a product at Stanford, for example, the only way to access it remotely would have been through the ordinary long distance dial telephone system. That can be very expensive. So, until a few years ago, the cost of communications to get across the state or across the country was such that it was really not cost effective to access services remotely, except in cases where there was a truly compelling need.

With the introduction of a technology called packet switching in the last four or five years, there are now two commerical companies Telenet and Tymnet which provide this service. The basic notion is that it's a shared data communications network. Many different users and computers use the network. The cost is based on usage. Telenet and Tymnet are responsible for installing, operating, and maintaining the network. We in EDUNET didn't want to get involved in the extraordinarily high capital investment to set up our own network when what we're really trying to do is provide service to our membership.

To just briefly talk about the technology, the term "host" may not be universally used to refer to the computer system that provides service. The IBM/3033 at the computer center in Stanford has a dedicated connection to Telenet. In that case it's in Palo Alto where Telenet has an office which has some communications equipment. Telenet also has an office in Orlando and by dialing the local number on an ordinary telephone you can establish a connection with the network using an ordinary interactive terminal. Since there are many, many hosts connected to this network, you then have to indicate which of the hosts you want to access. Of the probably 200 or 300 hosts connected to Telenet, about 20 of those hosts are EDUNET's suppliers. To give you an idea of the difference between a packet switched network such as Telenet, and the alternative which would be ordinary dial from there to Stanford, a daytime call from here to Stanford would be about $25 an hour just for the cost of the telephone call. Use of Telenet typically would be about $5 an hour, and that assumes no commitment. There is no dedicated connection on this end, for example, so there is no recurring monthly charge as there would be if you had any sort of leased circuit from here to Stanford which would be very expensive. Question: Is that $5 per hour or $5 per call? Answer: Five dollars per hour. Question: If you talk ten minutes, you are charged for that? Answer: Right!

Telenet and Tymnet together cover about 220 U. S. cities in which they have equipment installed, which means if you're in one of those 200+ cities, it's a local call rather than a long-distance call. Fifty Canadian cities have connections to a Canadian equivalent of Telenet and Tymnet called Datapac and there are interconnections with about 25 or 30 foreign countries. So, in fact, this is very much the wired global community which is getting increasingly wired together. For those who are interested, about 60 percent of the access points provide service at 1200 bits per second, whereas, the typical interactive terminal tends to be 300 bits per second. So, this is a higher speed of access.

What is it that we do? We don't own computers. We don't mess with the management of the physical network. We provide everything else, which turns out to be quite a bit. In the area of administrative services, for use of any of those supplier facilities listed, you have to open accounts and go through a procedure identifying passwords, and accounts limits and storage allocations. What we try to do, essentially, in our office in Princeton is to minimize the amount of learning required by the user to understand all the paper work and all the bureaucracy required just to get an account set up. We handle purchase orders. Single purchase orders to us can then be used to open accounts at one or a dozen different suppliers. We try to make the bureaucracy less visible to the user. We provide a central billing and send out a consolidated bill to each member; thus, it's possible to keep track of what services you're using and how much you're spending.

For our suppliers, we have arrangement with one of the communications networks (Telenet) whereby we act as a master customer on behalf of a dozen of those systems that are connected. We have a quantity discount which makes the arrangement very attractive. The current savings through that group arrangement is about 22 percent. So, in fact, a number of our suppliers save more on the use of communications service than the cost of membership and we're always delighted when we have a tangible cost-savings to offer.

Looking at another set of services we provide, we have a toll-free hotline. It's surprising in colleges and universities and perhaps more so in the K-12 market, how many people can't make a long distance call without some special authorization procedure. So, we've installed toll-free hotlines and have someone there who will answer questions about almost anything. If we don't know the answer, we refer the person asking to someone else, typically someone at one of our suppliers' sites who either have the information or who'll be able to get it. We also print a quarterly publication called EDUNET News. The single most comprehensive source of printed information is the Members Guide, which is a two-volume, loose-leaf set of notebooks that contains a lot of the initial information you might need, e.g., what are the operating hours of the system at Stanford? What time zone are they in? How do you get refunds? The sorts of things you need to know! What we've tried to do is to put them all together in one place in a common format. Again, the basic notion is to try to remove the bureaucracy and nonessential differences among the 15 or 20 systems that we provide access to. We try to keep the nonessential differences away from the user because that's not really what they are interested in.

Another service which we provide is an on-line data base which is mounted at Stanford and maintained by us. What we've really done is build a catalogue of about a thousand different computer programs, or sets of programs. You can sign on to Stanford with a terminal using key words to search for products. For example, "remedial reading" is a key word for search of the abstracts that would find any resources, any programs or data bases which would relate to remedial reading. We can't capture all the products we have in a data base because there are literally tens of thousands of products at the 20 schools; we've only put in the data base those we think would be of the most interest to our 120 members, but there's a great repository of information in the people at the supplier schools. Where we don't find it in the data base and one of the staff in Princeton does not know about a particular product, we will send out a broadcast electronic mail message to our various supplier liaisons, and in many cases they will have the resources even though they were not listed in the catalogues.

In the area of technical services, using the communications network is not particularly difficult, but you do have to follow a certain protocol and a certain sequence. So we provide direct assistance to users in using the communications networks, and often there may be a choice of which of the two networks to use where suppliers are connected to both. We provide fairly extensive information on procedures for accessing hosts, signing on, etc., - the kind of information contained in the members guide. Included in the guide would be a list of documentation and methods for ordering documents once you find a resource you think you are interested in.

What are the things that are available? Virtually every statistical package that is used by two or more people is probably available at one of the suppliers. A product like SPSS is probably not terribly appealing to use over a network since you can probably find a site that has SPSS within 20 miles of your own institution. There are some statistical packages which have some fairly unique algorithms for advanced statistical work than you would find in SPSS, and even though you have SPSS locally, the particular algorithm you need is in a different package. We have had use of that sort, where a school which has almost everything imaginable in terms of computing still finds a use for a network product because there is still that one item that they do not have locally.

In the area of computer assisted instruction, quite a variety exists, and it's impossible to list them. In fact, we do not try to list in any one place all the products we have, because we could not maintain it which is why we have a data base. Minnesota has quite an extensive library of CAI materials. I think John Haugo will probably touch on that in his presentation. Notre Dame has quite a variety of materials in biology, economics - and really spans all the disciplines. In most cases these tend not to be a full course that is computer-based. Much more typical would be, perhaps, a two-hour module which covers a single topic. It might be a simulation or a tutorial of a chemistry experiment, rather than an entire course sequence. That makes sense in terms of remote use through a network, since the costs are not trivial, by any means. For a specialized application you can afford to have a few students using a source remotely. Where you may still depend for 95 percent of your computing on local resources, the other 5 percent may be very important, very critical for special applications. Some illustrative applications: I mentioned the financial planning model, developed by a group of EDUCOM. It runs at Cornell on a large IBM virtual memory machine, and in fact, the program was designed to take advantage of essentially unlimited address space, which implies that it would be difficult to move to a system which is substantially different than an IBM VM system running CMS. It was designed very carefully to have a very simple user interface. It was designed for use by people who would be vice presidents of finance, directors of budgets, people who tend not to have very much computing experience, if any. And in fact, there may be fears and hostilities in use of computing in financial planning. It's a complex program, it's literally under continual development day-by-day, so new features can be added. Since it is available through a network and located only on a single host, as soon as a development is tested and debugged, it can be distributed to all the users of the system without any delay or without any possibility of not installing an update tape correctly. In fact, that has been, I think, one of the prime reasons why EFPM is now so widely used. I think there are about 100 institutions throughout the country, and I think one in Canada and one in Belgium, which are now accessing the system through EDUNET at Cornell.

Another capability which a network arrangement provides is in the case of EFPM users active in developing submodels. For example, a group at George Washington University developed a tenure planning model which looked at the profile of their faculty in terms of age and whether they are tenure accuring or not. Another university was interested in the same kind of modeling activity. All they had to do was to receive permission from George Washington University to go into their library at Cornell, pull out the model, put in their own parameters.

There was literally no investment of time in taking advantage of a user product developed by another user.

Another set of materials available at Minnesota is used by about 20 or 25 law schools. I list this because it has some interesting characteristics. It was jointly developed by the faculty at two law schools, Minnesota and Harvard. It runs at Minnesota on CEC equipment. It's written in MIL, which, I think, stands for Minnesota Instructional Language, and I am not aware of anyone else who has MIL. Again, the language makes it very hard to transport from one system to another. The authors, who are law faculty and practicing lawyers, wanted to be sure that what the students saw was what they intended the students to see. If they shipped out a tape, they had absolutely no way of knowing whether the student saw what they wrote into those modules. The authors can in fact be sure of what the user sees by having only a single copy at a single site. I was surprised to find that the answers to the questions in these modules changed depending on Supreme Court decisions and other kinds of decisions. So literally as a new decision is handed down, the authors of the various modules will go in and restructure the answers and set up choices to take into account the new decision. It was a little disquieting to find that the correct answer can change so dramatically with one decision. And, not surprisingly, the issue of royalties came to mind quickly with the lawyer/author, and there's a way where you have perfect information on how much time is used by whom, and you can collect a royalty. It turns out that the dollars involved in the royalty are not substantial, but in the case of the law people I guess it is the principle of the thing. It is totally enforceable.

A totally different kind of product is MPSX 370, a large, mixed integer linear programming system. It is expensive and an IBM product rather than one developed by a university. In fact, I think it's cost is more like $1,500 a month for one piece of software which may serve only one user.

An area that I think may have very far reaching impact in the work of the Southeastern Council, and in almost every area of society - business, government, education, and even in the home - is the area of electronic mail and teleconferencing. Services like The Source and Compuserv provide on-line messaging services, though fairly primitive ones. We have several excellent mail and conferencing services available from EDUNET suppliers. The one we use predominantly at the moment is a system called EDUMAIL, which is available at the University of Wisconsin. There is a shade of difference between electronic mail and I probably ought to use the word computer-based conferencing here, to distinguish it from a video teleconference. This is not a video teleconference, it's a terminal based computer conferencing system. The difference is in a mail system that you are dealing primarily with messages. In a sense, it is an equivalent to the postal service with some obvious differences; it is nearly instantaneous and in fact can be cheaper in certain environments. A computer-based conferencing system is really more a simulation of a face-to-face conference - a meeting with people around the table, each of whom are putting in comments. One of the most powerful characteristics of a computer-based conference, unlike a real face-to-face conference, is that you have a perfect record of everything that has been said. In fact, most of the conferencing systems have tools so you can search on prior comments. If the same question is asked twice, you only have to answer it once, because you can find the answer to the first time it was asked. That's a way to get substantial leverage out of what, in fact, is the dominant cost in providing almost any service, namely the labor component. If you can use technology to answer a question once, even though it is asked dozens of times, there is a real savings.

EMPIRE is another product. It's $30,000 if you buy it. It is generally used in business school settings. Another product of interest, which you are probably familiar with, is SIGI, the Student Interactive Guidance Information system, developed by ETS. Until recently, SIGI was really only available if you were willing to buy a small PDP-11 computer, and perhaps set up a four terminal system and run SIGI. If you had need for four terminals running 12 hours per day, then that was very cost effective. You could have delivery costs of $1.50 an hour. The problem for many people who are interested in SIGI is that they had difficulty making any sort of capital commitment to buy hardware. They might have the funds, but they simply could not get permission to buy equipment, or they really wanted to do a much more thorough evaluation of the product before deciding to go ahead and buy the equipment. The natural solution is to provide network access to the product so that you can pay perhaps at a rate of $6 or $7 an hour to use it for a few hours for a semester. If you like it, you can then acquire the equipment. If you find you need it only on a low volume continuing basis, you can continue to buy it through the network. If it turns out you do not like it at all, you have really not spent a great deal of time or energy in trying it.

Now I want to spend the remaining minutes on a totally different area, the relationship between microcomputers and networks. The basic notion is that there really is a justifiable hierarchy in terms of computing. Large mainframes are going to continue to be around, minis are going to be around. Obviously micros are not just going to be around but are going to proliferate at a very high rate. How do you decide where to do something, when you have all those choices? In some cases it is fairly difficult to decide, but there are some things which are very naturally done on a micro much more effectively. Things which tend to be very data base intensive, for example, will probably tend to be done for at least the next five to ten years on a large mainframe. We have done some work, primarily with the Apple, in developing some techniques for using the capability of a microcomputer to assist in accessing a network. Three features that are built into a software system (called EASY) developed by a group in North Carolina makes an

Apple look like a dumb terminal. It sounds pretty stupid to spend $1,500 to $2,500 for a microcomputer and make it look dumb. But in fact if you can avoid buying a dumb terminal, then you have a multipurpose device. The smart terminal capabilities would be providing services like automatically logging onto several of the network suppliers, so that you do not have to remember things like account numbers, passwords, and what in IBM terminology would be considered JCL, a long sequence of what would appear to be fairly arbitrary characters. You could store those once on diskette, and then simply draw them from the diskette, send them across the network, and you have automatically logged into the system.

The third capability, one which I think has more far-reaching impact, is the ability to send files between a micro and a mainframe. This has applications in at least two areas. One is a mechanism for distributing software, so that you do not have to physically create diskettes and mail them, particularly where there is a lot of geographic dispersal among people who have the micros. This could be an attractive option. A second option which may relate more directly to some work that the Council is doing is to use the micro for what it is good at, such as in the case of text editing you can have a full screen editor. If you have an electronic mail service that you are using, you can create your messages and edit them using very nice full screen editors such as the Apple Pascal editor. When you are satisfied that the message is perfect, you then connect to the network, and send the message down the line as fast as it could go. Not only do you get improved capability in having a full screen editor, but the economics are such that you are only connected when you are actually sending something down the line. The costs of services like electronic mail can be about one-fifth the cost if you used an ordinary interactive terminal, where you are keying at two or three characters a second.

There is something else I should mention because it is a very tangible benefit. We have a relationship with Apple. They are interested in having the Pascal capability and the network access capability more widely used on Apple equipment. Therefore we have an arrangement whereby our members can get this particular configuration at a price substantially less than list for the hardware alone.

Further information on EDUNET may be obtained from: EDUNET, Post Office Box 364, Princeton, New Jersey, 08549. Telephone: (609) 734-1878 or (609) 734-1915.

computers in agriculture — the florida approach

THOMAS R. HINTZ

The Institute of Food and Agricultural Sciences (IFAS) is a state funded agency which has the responsibility for addressing the agricultural needs of Florida. These needs pertain to three specific areas: resident instruction, research, and extension. Although the headquarters are centrally located at the University of Florida in Gainesville, the responsibilities extend beyond the confines of the campus. Resident instruction is primarily located on campus, but research and extension are very widespread throughout the state. Only half of the IFAS staff are located on campus. A fourth of them are located in 23 agricultural centers that are distributed around the state, and the remaining 25 percent are located in county extension offices in 67 counties. Because of the widely dispersed nature of our staff, we have a problem with communications. It has become increasingly difficult to provide current information and data processing capabilities to all IFAS personnel on a state-wide basis. An improved form of communications was needed. Not just telephone or mail communications, but the type of communications that would provide a mechanism for collection of data, analysis of data, and dissemination of data, all using a common resource.

This problem became apparent five years ago, and a comprehensive study was undertaken to assess the unique computer needs of Florida agriculture. It was determined that the traditional forms of communications are becoming obsolete. What was adequate yesterday is no longer satisfactory. We need an improved method of communications, one that would provide additional capabilities and make use of current technology.

Several states have taken different approaches to this development of data delivery and data processing systems, and many are still on paper. But of those that are operational, there are five levels of sophistication, with these levels being determined by complexity, flexibility, and usefulness. If we look at what is available at the lowest level, the simplest approach is the utilization of pocket calculators that are programmable. Magnetic cards that contain application programs can be taken directly into the field and provide a relatively inexpensive, portable decision making tool. They are restricted in their usefulness by the amount of information that can be processed because of limited storage. Both Iowa State and Cornell provide a subscription service to programs written for several programmable calculators.

With Level 2 we get into the Teletext or Videotex System. The approach taken with this system is to access information in frame format from a central computer. Various forms of this approach are utilized in Great Britain (Prestel), West Germany (Bildschirmtext), Japan (Captain), France (Antiope), Canada (Telidon) and the United States (Viewtron, Infovision, Videotex, etc.). The Kentucky Extension Service in cooperation with the USDA, SEA and the National Weather Service has developed an agriculture teletext system called the Green Thumb Project. It distributes all types of agricultural information with the use of a telephone, home television, and an inexpensive interface box. The box is used for entering requests for information to be obtained from a central computer and then storing the requested data for display on the TV screen. No processing of data is provided.

With Level 3, we get into the bigger systems where we have a very large computer located at a central site that is accessed using computer terminals. The terminals can be located anywhere a telephone link can be established. With this particular configuration we can process information. This is probably the most common approach taken, primarily because of its simiplicity in becoming operational. It only requires one computer that everyone shares. There are no problems with distributing data bases or programs. An example of this would be Nebraska's AGNET. Both Michigan (PMEX) and New York (SCAMP) use this approach for pest management programs. Indiana has also used this approach in the early stages of their pest management program. It was abandoned after several years when they realized the complexity and cost of trying to expand a state-wide system with hundreds of users wanting access to a central facility. It is very difficult to handle a large number of simultaneous users without the computer becoming overburdened.

With Level 4 we get into distributed processing. With this approach there are a number of intelligent processors distributed around the state. Each processor has stand-alone computing capabilities. There is, however, no communication between processors. This has the advantage of distributing the processing load among several machines but has the disadvantaged of being unable to share resources or provide wide area communication capabilities. An example of this is the Texas (BUGNET) system that is used for pest management programs and other extension applications.

The next phase up, Level 5, is characterized by the Indiana FACTS system. FACTS stands for Fast Agricultural Communications Terminal System. They maintain a large central computer on campus, in addition to every county agent's office maintaining its own stand-alone minicomputer. A pseudo-network is used for communications if information is to be moved between processors. It is called a pseudo-network because they do not have continuous communications between processors. The central computer has several outgoing WATS lines that continuously poll the counties, and provide only computer-to-computer communications. The county agents do have the option of overriding the system if they have a very immediate problem to be answered. If they do not want to wait until they are polled, they can override the polling sequence and call directly to the central campus. Long-distance interactive processing is not provided so that connect times will be short. Applications requiring data from the central computer will be run interactively in the county, send a batch request to the central site, and after retrieval of the results answered with a local interactive program. Indiana is probably the largest state agricultural system that is currently available.

After reviewing these different systems, what approach is IFAS going to take? After carefully evaluating the existing systems and looking at our specific goals, it was determined that IFAS needs a distributed, interactive processing network, primarily because of our size and distribution throughout the state. A network of minicomputers would not only serve as the major communications link for providing immediate access to data bases and processing on campus, but it would also provide a common mechanism for distribution of information to all off campus locations.

Currently, all applications for IFAS reside on a large mainframe computer at the University of Florida, a regional data center that utilizes an IBM type machine. This machine is designed primarily for the batch oriented community, for people who know how to run computers, who have computer expertise, and who can solve their own problems. It is not easy to use unless you have a considerable amount of training. Most of our users will be unskilled people, at least unskilled as far as computer experience. They have not had formal training in computers. So we have to provide a friendly system they will not be afraid to use, and require minimal training. This can be accomplished with an interactive computer system, a computer that will interrograte the user, ask understandable questions, and respond to the users demands in a way that is helpful rather than cryptic.

The design approach that IFAS is taking is to develop a hierarchy of computers. This approach will provide dual access for both interactive processing on the agricultural system and batch processing on the mainframe at the regional data center. What we will be connecting to the mainframe computer is a network of minicomputers with the size of each mini determined by the needs in each particular area of the state and the specific purchasing unit.

How do we go about implementing a system like this? We start off with the existing regional data center at the University of Florida. To this we will interface a large minicomputer. Why does it need to be large? We have a major concentration of staff at this location; 50 percent of our staff will utilize this particular machine. It has to have enough capacity to satisfy the needs of all IFAS personnel on campus. Additionally, it will be the central location for program development for the rest of the network and also be a central storage facility for sizeable data bases. Lastly, this processor functions as the main communications link between the entire state and the regional data center and must handle a lot of the overhead involved with communications networking.

Next, we move into a medium size minicomputer. These will be located at Agricultural Research and Education Centers, primarily in those areas that have a faculty large enough to require large computing capability. They will also act as an intermediate communications node from the university to the county offices. Three locations have been selected for remote network nodes: one in the western part at Quincy, a central location at Lake Alfred, and a southern location at Belle Glade. These locations will make up the basic network that will be connected to the computer in Gainesville. They will be fully operational 24 hours a day and continuously network together.

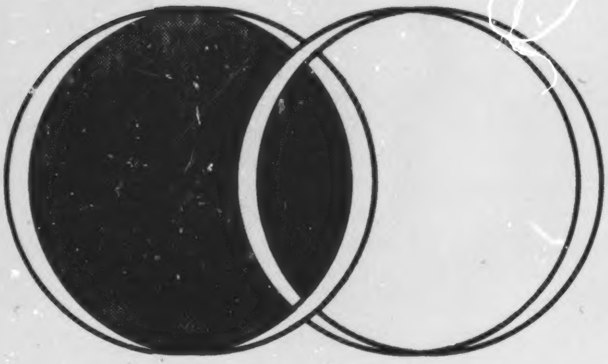
When we move from remote nodes into a county office, we require units that may vary in size and performance from an ordinary computer terminal to a complete but small minicomputer system. One that provides local processing capability, so county agents can store their own data, run their own programs, but still having the capabilities of communicating with the rest of the network. Their selection will depend upon the needs of each particular county office. Some counties are very small and cannot afford the cost of a complete unit; other counties may have a larger staff and can utilize its full capability. The county units, in most cases, would connect to one of the remote nodes. The networking existing between the counties and the network node may be a continuous connection or just dial-up capability. Each unit will be evaluated for specific needs and cost justification. Individual telephone rates are a very important component in determining how we implement the network.

We are also looking at an alternative to this type of networking, the packet-switching network. The State University System (SUS) is evaluating the implementation of a state-wide network that we, hopefully, can utilize. It would eliminate or at least reduce many of the problems associated with communications. The SUS would provide an in-state, long-distance data communications system. This link would be shared by several Department of Education units that desire the interconnection of multiple computers located in several areas of the state. The IFAS network would still maintain short distance communications to locations that would not be serviced by the SUS link, primarily county offices.

The projected time frame for completion of the IFAS network is five years and would occur in two phases. The first three years will be devoted to implementing the primary network links, elimination of operational problems with the system, training of staff and development of application programs. The remaining two years will be devoted to expanding the network into the remaining agricultural centers and county offices while continuing the development of additional research, teaching, and extension programs.

Although many types of computer equipment are available, specific agricultural application programs have limited availability. They are lacking right now because computers have primarily been used in the area of research. Their use in teaching and extension has only increased in the last few years. Specific application areas that will be developed are electronic mail, word processing, weather collection, integrated pest management, pesticide registration to name just a few. Surveys have been made of agricultural applications developed by other state and federal agencies and each will be evaluated for their value to Florida agriculture and inclusion into the IFAS system.

In conclusion, the system that we are building will upgrade the capabilities of our state-wide organization and satisfy our present needs for improved communications and data processing. Initially, the flow of information will be limited to just IFAS supported offices. The design, however, provides us with the needed flexibility to expand our capabilities for accessing and utilizing non-IFAS data base and to eventually distribute the information directly to a homeowner's computer terminal.



state-wide models for delivery of computer services to public education

state-wide models for delivery of computer services to public education

J. TERENCE KELLY

Good afternoon. My name is Terry Kelly, and I am Vice President for Education at Miami-Dade Community College. However, I'm here today in my role as Chairperson of the Florida Commissioner of Education's Task Force on Instructional Computing.

The topic for the two presentations, as listed in the program, is "State-wide Models for Delivery of Computer Services to Public Education." In the presentation that will follow mine, you will be presented with a well-developed and completely functioning model for utilizing instructional computing in the State of Minnesota. My presentation will focus on an emerging model for reliance on computer technology for educational applications within the State of Florida. The model is clearly at the developmental stage. Thus, what I will be able to share with you are directions being suggested, ideas that have been proposed, and recommendations as to how the State should proceed.

The Florida story starts about a year ago when the Honorable Ralph Turlington, Commissioner of Education in Florida, had the vision to establish an Advisory Committee to examine what rational approaches educators should seek for moving instructional computing into Florida schools. The committee is composed of representatives from all levels of education--elementary schools, secondary schools, community colleges, and universities.

The Committee began by seeking answers to some very complex questions. Delineating the pertinent questions is difficult; finding acceptable answers is even more difficult. Questions dealing with whether there is convincing evidence that computers enhance teaching and learning were raised, as well as questions focusing on the effect that this technology has on students. Attempts were made to deal with the economics of the technology and its cost effectiveness. The Committee also wanted to know not only about successful projects, but also projects that were failures. There was keen interest in what was already taking place within the State as well as what was occurring around the country regarding instructional computing, state master plans for utilizing such technology, and quality projects.

The Committee approached these issues and questions with caution and perseverance. During the year-long study, the Committee met with some of the best minds in the country who are working in instructional computing. We listened to what other states are doing and were particularly impressed, as I am sure you will be shortly, with the accomplishments and the organizational arrangements within the State of Minnesota. The Committee also encountered many major vendors that are distributing hardware and, in some instances, software on a national basis.

The results of the Committee's work, including a set of recommendations to the Commissioner of Education, are contained in a document entitled "More Hands for Teachers." This report provides a comprehensive examination of the issues, concerns, and promises in the area of instructional computing. It has sections on research findings, financing and economics of computer technology, highlights of computer projects that seem to have a positive impact on faculty and students, and an extensive bibliography citing uses, Congressional studies, and other issues dealing with this form of technology.

The fundamental question that the Committee dealt with centered around whether instructional computing has honestly moved education forward. At this point, the best that can be said is that trends are emerging to indicate that under certain conditions, computers can be enormously helpful to both students and teachers. But I would be less than fair if I didn't indicate that there are other studies conflicting with this positive trend that has just been cited. So in a sense, the jury is still out on this question. Further, since the variables are almost incalculable in dealing with such a fundamental question, the question itself must be refined to relate to more specific applications for specific purposes in specific locations before any meaning can be sorted out from the research that does exist. Rather than being discouraged by this state of affairs, the Commissioner's Advisory Committee, perhaps because of its own intuitiveness and conviction that the technology will be pervasive in our society, proposed a set of assumptions that would key off the belief that teaching and learning could be greatly improved through creative applications of instructional computing.

If I were to state the overwhelming lesson that the Commissioner's Advisory Task Force learned during the process of its intense work, I would cite the fact that clearly the hardware capabilities of data processing and instructional computing are far ahead of the human development that is essential to capitalize on the hardware capabilities. There is a tremendous gap between the capabilities of the hardware and the capabilities of individual humans to understand and utilize what already exists.

The Committee is still assembled, working, and providing advice to the Commissioner of Education about how it thinks the State should facilitate the use of computers in all segments of education in Florida. If there is any success that is to be attributed to the Committee's work to date, it will rest on the fact that in the last Florida Legislative session a law was enacted based on one of the recommendations of the Advisory Committee. The recommendation that we passed on to the Commissioner was translated into a bill, made its way through both Houses, and was eventually signed by the Governor. This piece of legislation related to the Committee's belief that a clear commitment by the State to support this technology was needed. The law commits the State Department of Education in form of State policy to support efforts in a wide range of instructional computing endeavors.

At first this might seem like a very insignificant point, but we viewed it from just the opposite perspective. I am sure all of you have worked with bureaucracies, and certainly State Departments of Education fall into that category. Stated simply, you know that bureaucracies tend to behave in ways they are expected to behave. Thus, without an unequivocal mandate that designates the responsibility and the authority to deal with computer technology, we could never feel secure that supporting forces, without the law, would be sufficient to permit the necessary planning to occur for instructional computing in Florida. A copy of this legislation is provided as an attachment to this paper.

Where do we go from here in Florida? Like most other states, Florida is faced with a never-ending dilemma of resource utilization. It will take more dollars and more personnel to enable computer technology to find its rightful place at all levels of education. Further, the State must find ways by which computer resources can be equally distributed throughout Florida. Poor rural districts, inner city schools, or small schools should have the same opportunity to utilize instructional computing technology that is available to more affluent schools. But, there are realities to be faced when trying to implement the priorities established by the Advisory Committee and others at the State level. Educators are competing for dollars against those who seek funds for building new State roads, improving correctional institutions, enhancing State welfare programs, and maintaining a host of other important societal programs.

Further, we know legislators and their staff can ask tough questions, and we cannot pound on the table and demonstrate an irrefutable case that putting more resources into instructional computing will solve any of the current problems facing educational institutions. This is a real dilemma because the problems plaguing our nation's schools, colleges, and universities such as poor basic skills, cannot be solved by a "quick fix." Not even the most ardent supporter of instructional computing would suggest that computers represent an immediate solution to a set of problems that have developed over many years. The resolution of these problems will require an extended period of time, utilizing a variety of methods, only one of which would be reliance on computer technology. Thus, there are struggles ahead in the Legislature in relationship to additional resources that would be needed to advance instructional computing through a rational plan into the State schools, colleges, and universities.

The State Department of Education is also concerned about the directions that are eventually adopted in the State of Florida. The never-ending conflict between the State Department of Education and local institutions over the need for local decision-making and autonomy continues to surface as the Florida model is being developed. One of the proposals, for example, is to regionalize the effort by relying on universities or colleges to take a leadership role for all institutions within an area. Others would like to see the State Department of Education have a strong and visible operation which would coordinate, facilitate, and provide major leadership and assistance throughout the State.

Thus, it should be understood that the Florida plan or model is still under development, and we remain uncertain as to the best ways to proceed with some issues. For other issues, there are firmer positions and convictions about how to proceed. For example, there is virtually no disagreement concerning the need to develop computer literacy programs for the elementary schools and as "catch-up" learning at all other levels so that the citizens of the State are not caught short as the computer revolution gains momentum. Whether we like it or not, we know people are going to have computers as a part of their everyday lives. Computers are moving rapidly into all segments of society, including the home. It seems imperative that the State have an educational program that will give elementary and high school students a basic familiarity with computer language and computer technology.

I want to return again to the importance of developing the human aspects of the hardware-human equation. One cannot ignore the tragedies that occurred with earlier uses of technology in education. This is particularly true if you examine what happened to instructional television in the late 50's and early 60's. There were failures in many of those efforts, and a lot of hardware was purchased that is still stuck in somebody's closet. Unless we pay close attention to the human aspects of working with computers, a new chapter can be written about the tragedies of instructional computer technology. Human resources are an essential element in making Florida successful with instructional computing. Resources, commitment, time, and care must all be in place if the applications of this technology are to be successful.

The educational applications, the curriculum, and the substantive teaching methodologies using computers must be designed and programmed under a quality control probably unsurpassed in current curriculum development projects. It is this "front end" work that has probably been underestimated, and certainly underfunded in the development of most courseware or software. If you talk to vendors about what is currently available and examine the research either with microcomputers or mainframe systems, you will find in most cases that quality educational packages are pitifully lacking. One can easily be dazzled by the capability of the equipment, but be completely turned off by the lack of sound educational applications.

In summary, let me say that we are still studying the issues in Florida, but at the same time making good progress. The Advisory Committee continues to meet and has a much better sense currently about how to proceed. The State is now committed to the effort by law.

There has been outstanding leadership from members of the Commissioner's staff particularly from Fred Daniel, Director of Strategy Planning and Management Information Systems, who has guided the work of the Advisory Committee with great skill and provided the necessary support to make things happen. Superior work of the staff greatly adds to the ability of the Advisory Committee to function.

With the upcoming legislative session, we will know whether responsibility will be delegated to the State Department of Education or whether some other arrangement will emerge. Additional applications are needed and these will require some tough sledding with legislators. Previous work in Florida has dealt primarily with administrative computer applications, and questions about acquiring computer access and resources have been addressed; the State has also been investigating "networking." It is important for future instructional computing efforts to tie these projects closer together. Additionally, sound educational programs are needed to deal with the notion of computer illiteracy. We certainly do not have all the answers today; but if we have a similar conference next year, I believe Florida will have a more complete and successful story to tell.

ATTACHMENT: FLORIDA LAW

Section 6. Section 229.8041, Florida Statutes, is created to read:

229.8041 Educational Computing.--

(1) STATE POLICY.--It is the policy of the state to use computers and related technology to make instruction and learning more effective and efficient and to make educational programs more relevant to contemporary society.

(2) IMPLEMENTATION OF POLICY.--The department is authorized and encouraged to assist school districts, community colleges and state universities to make appropriate use of computing. Department actions for this purpose may include, but need not be limited to:

(a) Providing information and consultation on computing for education.

(b) Establishing agreements with vendors of computing hardware and software which allow districts and institutions to purchase such commodities under favorable terms.

(c) Surveying districts and institutions to determine how available resources for educational computing can be used most effectively.

(d) Conducting evaluations of available equipment or programs to determine their effectiveness or cost effectiveness.

state-wide models for delivery of computer services to public education

JOHN HAUGO

I would like to give you some background on the Minnesota Educational Computing Consortium and how it is organized, spend some time on each of our major services areas, and conclude by providing some information regarding the courseware that we have available for distribution outside of Minnesota.

MECC was established in 1973. During that year, the state of Minnesota studied the need for educational computer services, the kinds of applications that would make sense for higher education as well as elementary and secondary education. The Governor established a task force, a cross section of the people representing all levels of education. The task force came back with a recommendation to the governor and ultimately to the legislature. MECC was created in 1973 as a joint powers organization. Minnesota has a statute, as most states do, that enables existing governmental units to combine into a cooperative or a consortium in which they cooperatively provide the services that they individually could not provide. Other examples of joint powers agencies are organizations between school districts and municipalities where they get together and provide a recreational program.

I think many of the factors that led to our creation were essentially factors with which your states are dealing. One unique factor we do have which was part of the impetus for the creation of the act was the large computer-based industry in Minnesota. We are third in the nation in the production of computers and related electronic equipment. California and Massachusetts are the only states with more of this industry. We have an average size state population, but I think the existence of this industry aided the awareness and familiarity on the part of our citizens in what computers can and are doing in industry. As a result, it has made some of the things we are trying to do more receptive. We also had a number of successful cooperative efforts created at the regional level. People did believe that computers were a resource that had to be shared, at least with the kind of large computing equipment we had at that time, in order to be cost effective and because of one existing elementary-secondary region and another university network, people did believe that it made sense to cooperatively provide computing services.

We had concern in our state, as in many states, with the equality of educational opportunity. It was felt that if access to a computer for instruction and management was good for the metropolitan district, it was also good for rural districts. We also had concern about the proliferation of computing resources. In the early seventies, the governmental entities and the educational institutions had to acquire equipment, it didn't seem they were looking at it in any coordinated way. They were not exploring the possibilities of sharing with institutions of their own type.

MECC was established with two major purposes. One purpose was to coordinate and plan computer services. Our board does have regulatory authority, and secondly, to provide services. We had a number of goals, process goals, if you will, as opposed to outcome goals. We are talking about some economy of scale with sharing and acquiring computer hardware. I'll point out some cost effectiveness in communications networking, designing systems and distributing expertise that already existed. Goals also include uniformity and compatibility of data for reporting, and also in having a vehicle for the training of educators, both teachers and administrators. It was felt that if the higher education institutions were in sync, so to speak, with what is happening with elementary and secondary schools, the teachers could be better prepared to use technology and both pre- and in-service training of teachers could take place related to its use.

MECC then was set up, as I mentioned, as a joint power agency. The members of our consortium are the Department of Education, the Community College System, the State University System, the University of Minnesota which has its major campus in Minneapolis and five branch campuses. The Department of Administration in the state appoints one member, the Governor's Office, which is not a member of our consortium, appoints three members to our board, six people are appointed by the Department of Education, and two from each of our higher education systems. We have a balance of power between higher education and elementary-secondary education on the board. The board meets monthly and deals with topics related to both the regulatory and the services functions. We have a technical advisory group made up of people from industry, business and government who advise me and ultimately the board on technical matters and review requests for acquisition of equipment. We also have a liaison group made up of individuals who meet on a monthly basis with me regarding the planning and budgeting matters in other words, the operation of the consortium.

Organizationally, we have three major service units, our management information services or administrative data processing, instructional services and our special projects which may be either instructional or management related. Our special project unit is supported by foundation and federal grants for the most part. The actual operation of the computer is supported by fees charged to users. The communications network is supported by a state appropriation. Management information services are funded from fees in districts. We also get an appropriation from the state for development of software for administrative purposes.

In Minnesota we annually spend about $30 million for public educational computing, of which $9 million is on the higher education level and $31.3 million is at the elementary-secondary level. These are state and local dollars. The large university with a research base, such as the University of Minnesota, obviously has additional funds for research grants and so on. We have about 1,000 people involved in the provision of computing services at some level, everything from data entry to management of computer facilities, a $12.3 million annual hardware cost, and a hardware investment of about $41.5 million. These numbers are comparable to other states our size. I don't think we necessarily are spending much more on a unit basis.

Most of the major educational computer centers are operated by the systems of education and not by MECC. MECC only is involved in the operation of a couple of these facilities. The majority of facilities are located in the metropolitan areas, Minneapolis - St. Paul, and the suburban sections which makes up about half of our population, about two million out of four million people are concentrated there. In general, our state plan for computing is that each higher education system will have one computer for administrative work and one timeshared computer for instructional work, which we manage. They also have two academic research centers, at each of our major higher education institutions.

One service we have that doesn't necessarily fit into our breakdown of MECC and instructional special projects is the service of supporting schools, colleges and universities in their acquisition of equipment. Since we were established, we have had a number of major contracts with vendors in which schools, colleges and universities can acquire the equipment through us. We think that provides three advantages. One is the compatibility of equipment. A second is the price discount associated with that. And a third, it simplifies the acquisition process, particularly smaller districts who do not have the wherewithal to put together specifications of pretty complex equipment. A few examples are: Our state bid with Apple Computer Company. We have, approximately, approaching 2,000 Apple microcomputers purchased by schools and colleges. Our state contracts with Burroughs for MIS host computers. We have seven regional centers with B6800s that are acquired through that contract at a discount of about 40 percent from list price. We have some numbers as to how much we have saved the state. I think it has been significant. I would suggest to you as a state, if you don't do anything else in this area, you might consider facilitating the acquisition of equipment through some kind of state contract.

I would like to briefly talk about our Management Information Services Division. We have developed a management information system called Elementary-Secondary-Vocational Information System, or ESVIS. It has the traditional components. Each of these components now are available and on the Burroughs B6800 computer. We have developed and we are supporting this. The state requires that all school districts go through our financial accounting and reporting system because there are uniform reporting standards imbedded in them. As of July 1 we had all but five of 435 districts on a common financial system and had achieved a major goal with that. The other systems are really on a volunteer basis. Approximately half of the school districts, now, are using the state personnel/payroll and student information services. Only two of the regions are providing instructional management on a regional basis. But we do have the software, it is running on the Burroughs equipment and it is supported by MECC.

There are seven regional service centers in Minnesota. They are dispersed through the state. Two regional service centers are located in metropolitan area. Development of that system has really been a shared activity. As I said, MECC actually developed the common software and it is supported by the state. The reporting standards were established by the Department of Education. The coordination and planning was a joint effort between MECC and the department. Any unique software was developed by the region at their expense. The conversion or the implementation to those systems really was supported by MECC. In fact, MECC assisted the regions in the acutal implementation. The regions operate the regional service centers.

Data are transmitted from school districts to the regions and then on to the State Department of Education. A school district is linked typically via the telecommunications network. Small districts will also mail their data into the center and then to the regional data base. Their information, once cleared by the school districts, committed all their financial information this way. I think the key is that the data was validated by the school district before being submitted which simplifies things from the department end.

We don't operate the regional centers. They are operated by local people under the boards made up of school administrators and school board members from those regions. But we do provide the actual programs. We provide the latest vendor software, the user manuals, the system documentation, the training materials that they need. We train their trainer, so to speak, and we do provide state standards in terms of reporting. Those are the kinds of things that we provide through our MIS system. We do not in a direct way provide administrative data processing to higher education.

Our next unit is our special projects division and our special projects is in effect our research and development division. They do pure research and related projects, exemplary kinds of projects that are typically funded by federal and foundation sources. Because of our visibility as a state who is providing some services on a state-wide basis, we have been fortunate to get some significant grants related to computer development. A few examples include the MOIS, Minnesota Occupational Information System. We were funded by the Department of Labor to actually bring up a system that was originally developed in Oregon. This was an experimental thing for a year or two. Now it is part of our ongoing timeshare service. This information is provided through out timeshare network and is updated on a continuous basis.

We have a number of special projects related to computer literacy. We received a grant from the National Science Foundation to look at the level of computer literacy or awareness in samples of eighth grade and 11th grade students in our state. We developed the instrument to make that assessment administratively in concert with the state assessment. Then we did an analysis of the data and have validated an instrument that is available through the National Science Foundation. As a result of that project, we have had a number of other projects. The most recent one from the National Science Foundation with a $270,000 grant over two years developed 25 packages to teach about computers using a microcomputer. The 25 packages are in a number of discipline areas and will be available, some with pilot bases, starting next fall. We will have a national conference in Washington next month. Where the national experts in this area will be gathering and giving us insights to try to form a conceptual base for what actually is involved in computer literacy.

The last services area is our instructional services. Instructional services are really organized into four departments. We have our technical services, the people that run the computers. We have a communication network department. We have a user services department. Then we have a department of systems development which was formed last summer as a separate group. We essentially have four groups of people on our staff involved in the delivery of instructional services.

The technical service people actually operate and maintain that central timeshare computer. We now have 420 ports on that system. This gives you some flavor for the number of log-ins, and so on. Generally, I think we have about 600,000 connect hours per year processed on that system.

In general we have about 600 programs in the timeshare library. Our library system breaks down this way. Every MTS user has their own individual library and we have storage allocated for that. Then there is a share library of programs that are available to others but not necessarily supported by MECC. The MTS library is one that has been looked at from a technical standpoint. We do support it in the sense that our trainers know things about it and help users use particular packages and it is documented with manuals. We have the SEEDS library for Apple microcomputer users that has nonsupported programs. They are available and I think we're talking in the neighborhood of 150 programs. And then our Apple library is supported and available for users in

Minnesota and those that are proprietary users out of the state. These are available on diskettes with the supporting documentation as well as available from the timeshare system.

Our other service is the telecommunications network and, of course, is a major activity because it is state-wide in scope. We have all levels of education users. We have communications concentrators, that take over speed lines and tie them into higher speed lines and go into our MTS computer. These are located at 23 different sites throughout the state. Some sites have more than one. These are typically located at community colleges and our state universities, where they can be maintained.

We have relatively good response time on this. We try and maintain a response under four seconds, and typically anywhere in the state it is in the neighborhood of two seconds response for not commands.

Some of the language we have in the timesharing system essentially includes the Basic language and other commonly used languages. Much of our use is still Basic. As we look at using the Apple microcomputers more, we are trying to encourage users to do the basic kinds of things on the Apple and keep the timeshare for some of the other languages, which aren't available on the Apple.

Most of our costs are associated with getting the users to the multiplexers. In fact 69 percent of the costs are really associated with getting into the multiplexers. So, even if we had a computer in everyone of those 23 sites, we would still have 69 percent of our communications costs state-wide and that was an alternative to consider at one time. All we would really save is about 15 percent if we were to discontinue the long lines. Then they would have to staff at those sites and that would be significant cost. The most economical communication network, at least in Minnesota given the line networks we have, is to go to a state-wide network.

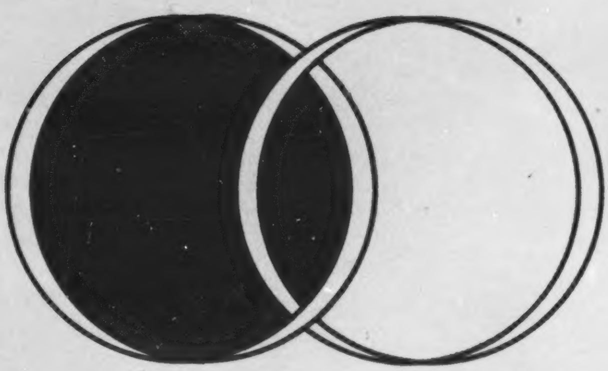
Our user services people provide the user education, workshops, presentations, etc. We have one of these located in each region; one person working with each higher assistant. Then the user communications includes visitations, the newsletters, the hot line service and the electronic mail services, and so forth.

Last year we had about 600 visits to schools and colleges by our ten user services' staff. That means that on the average we visited each school district more than once, 450 presentations, 275 workshops. You can see they are keeping busy. In higher education since there are fewer institutions, the workshops tend to be longer, more in-depth. If anyone has been a key to out success, the people have been because they have established good rapport out there. They have done a good job of interfacing between our staff and the users.

The last service area in instructional service is our instructional system development. We have recently established this group. They are responsible for the development of instructional courseware. They author it; they convert it from existing software including our timeshare software. We have found that very little contributed software that we get is of the quality we feel we can distribute among our own users. So they do a significant amount of revisions.

I have some handouts on the kinds of things we have available, the documents and software. We have not purposely entrepreneured in this area. However, last year because of the lack of courseware on microcomputers and particularly other people found out we were doing some things, we have been bombarded with requests. So what we tried to do was organize a little better this year, we have some staff assigned to distribution. This is not only for out-of-state distribution, of which about half is now, but also for internal distribution in Minnesota.

The other thing, rather than us making all the copies and disseminating ourselves, we have entered into agreements with a number of states and regions, where we send the entity that is identified as the distributor or the state department of education or somebody at the regional center a master copy of every diskette that we produce and then license them for the year. They keep a record of how many copies they make. It is an honor system, obviously. But they then pay us a flat amount of $1,250 a year plus $50 for each Apple. We did some arithmetic on it and we think we can come out about as well doing that as charging $20 for the diskette and sending it out on an individual basis, plus it simplifies our distribution process. To date, we have had about 16 entities that have entered into that kind of arrangement for distribution of our Apple courseware. In the documentation we provide for courseware purchaser we include: a description, a topic, grade level, the role of the computer in the whole unit, the readability of the courseware itself, a more in-depth description and the instructional objectives that go along with it, any background information, correlated information, and sample runs.



using the computer for educational policy analysis

technology and the use of information in public sector policy making

ROBERT GARVUE

Policy, as defined in Webster, includes three components:

A. A definite course or method of action selected from among alternatives and in the light of given conditions to guide and determine present and future decisions;

B. 1. A specific decision or set of decisions designed to carry out such a chosen course of action;

   2. Such a specific decision or set of decisions together with the related action designed to implement them; and

C. A projected program consisting of desired objectives and the means to achieve them.

Policy makers in both the public and private sectors set goals, elaborate strategy, and implement policy. Obviously, the processes are complex and involve facts, values, perceptions, and anticipated or perceived consequences of alternative courses of action. Future research can have utility for policy analysis and formulation including the following possibilities:[1]

A. To detect emerging and longer term trends, issues, conditions, and interrelationships (early warning system);

B. To signal the need for wholly new legislation;

C. To prepare major policy speeches and position papers looking toward the future;

D. To identify future implications of present and proposed legislation;

E. To facilitate hearings by identifying possible themes, critical questions, and appropriate participants;

F. To assist in the preparation of future-oriented bills;

G. To provide a systematic replicable framework for gathering information about the future relevant to current policy decisions; and

H. To check on the accuracy and reliability of future information arrived at through less formal means.

It was C. P. Snow who was quoted as saying, ". . . The sense of the future is behind all good policies. Unless we have it, we can give nothing either wise or decent to the world."[2]

In a recent presentation, Ray Hackett described the future as coming at us and that there were two futures; the one we're drifting into, and the one we want. Obviously, to create the future we want we're going to have to make good decisions. That means we're going to need the best possible and the right blend of information to make the decisions.

It should be noted that data and information are two components of a Management Information System (MIS). Data are merely symbols which are communicated, processed, and stored in the system; information is the meaning or intelligence that is derived from data and used for management decisions. The policy research process moves through the data-gathering phase to data analysis, and the data are then transformed into information.

The two primary data needs include:

A. Good control data, i.e., data internal to the system or inputs, outputs, and inventories; and

B. Good environmental data or data external to the system. Questions are what impinges on us and what do we impinge upon related to varied social, economic, and technological indicators.

Future information involved in foresight activities is often thought of in terms of specific techniques of future research developed in recent impact analysis, Delphi technique, trend extrapolation, and trend impact analysis. If the future is conceived of as a large set of alternatives, these future research techniques are means of discovering and articulating the more important of the alternative future and estimating the trajectories likely to be produced by contemplated policies.

Traditionally, then, we might discuss information in terms of:

A. Measurement of a process or how well things are going;

B. Control of a process or when to intervene; and

C. Future states of a process or what to do.

Parker and Gardner pointed out in a paper in 1978 that there are managed systems and administered decisions. The principal focus of management information is problem-solving and that of administration is position building. The nature and purpose of management information is different from information required for administrative or political or position building. In the absence of specific goals and objectives, which is typical of an administered system, a MIS design will continue to be difficult because MIS depends on clearly defined objectives to guide the design effort.[3]

Public policy analysis should include:

A. Extracting certain information from data;

B. Having that information attended to and understood;

C. Providing information within a certain time frame; and

D. At a reasonable cost.

One of the most profound advances in educational and other research has come from the domain of electronics and computer technology in the forms of the incredible ease with which vast amounts of data can be rapidly and accurately analyzed. A leader in developing such capability has been and is the Institute for Research in Social Science at the University of North Carolina, the oldest university - associated social research organization in the United States. Apart from its own staff, over 200 university faculty members annually apply for membership in the Institute.

S.A.S. Institute, Inc. is a private corporation that grew out of North Carolina State University and provides a state-of-the-art, integrated system for data management, statistical analysis and graphic display. S.A.S. Institute is a rapidly growing concern with over 1,300 corporate users. A number of the policy analyses prepared for the White House are developed on a S.A.S. system.

REFERENCES

1. Marvin Kornbluh, et.al., "The Tools of Future Research: Some Questions and Answers," Techniques and Procedures for Analysis and Interpretation. Washington, D. C., U. S. Government Printing Office, 1977, pp. 14-15.

2. Quoted in Franklin Tugwell, ed. Search for Alternatives: Public Policy and the Study of the Future, Winthrop Publishers, 1973 - from C. P. Snow, "What is the World's Greatest Need," New York Times Magazine, April 2, 1961.

3. John D. Parker and Don & Gardner, Information Will Not Make You Well, MIS Reexamined, AIR Convention, Houston, 1978.

computer graphics for educational policy analysis

GRADY B. MEEHAN

A version of this paper was presented at the Second Conference on the Future of Education in the Southeast, held in Orlando, Florida from November 9-11, 1980. (NOTE: Illustrations used in the oral presentation have been omitted.)

Before I show some examples I have prepared for my talk, I would like to address several issues with regard to computer graphics. I think that it is time to realize that computers can produce graphic output that can be used as an effective tool in policy analysis and decision-making. Ten or fifteen years ago, people who saw a map or graph produced by a computer would say, "gee wiz, isn't that a pretty picture." We should accept the fact that computers, when using the appropriate programming software, can produce pictures based on scientific information, rational pictures, scientific illustrations, etc. They can also produce pretty pictures! My purpose here is to show how the power of computer graphics can be used to produce output that can communicate information effectively and use the power of the human eye to process information. Being a powerful medium, graphic communication is different from other forms of communication such as the written and spoken word.

There is a great deal of interest in computer graphics within private industry as well as government. In the last year, there have been several large conferences in which computer graphics was the main theme. All were well attended. Topics focused on computer graphics hardware, software and numerous applications in government and industry. The most important trend I have seen over the past several years is the effort by hardware developers to reduce the cost of graphics devices and the efforts of software developers to make graphics programs easy to use by non-programmers. What we as educators must also remember to do is insure that people are trained to use maps and graphs effectively. That is one of the underlying themes that will be revealed as my examples are being shown. A properly trained user of maps and graphs will be more effective in their application to educational policy problems

(Balchin, 1976). Now, these efforts seem to be paying off as we will see in the next talk by Ray Hackett when he shows some of the capabilities of SAS, the Statistical Analysis System and their new graphics package (SAS Institute, 1980).

The "gee wiz" type comments are being replaced by, "how can we use computer graphics in our organization?" The point that should be made here is that a graphic output capability on a computer system is a vital part of an information analysis and delivery system. It can be the part of the system that gets the right information to the right person on time. We have had graphic products in the past, but the high cost of production and the long lead time relegated them to final reports. The right place for graphics might be the decision-making process itself, where information can be made readily available in a compact, easy to use format.

Now I want to turn to the examples which illustrate the power of graphics. In the first example, we see our old cartoon friend, Henry, the young guy with the bald head who never speaks but acts out his story. In the cartoon you see now, we can see the impact of a sales chart on a businessman. A downward sales trend produces some anxiety on his part. Henry sees the problem on the chart and conveniently turns the chart around so the trend line goes in an upward direction. The businessman is delighted and is shown smiling in the last frame of the cartoon. This is an example of how graphics can work. A good graph communicates with a minimal amount of written (or spoken) language.

Other features of the graphic may also carry a message. When used, the lettering style may carry a message of its own. For example, would you go to a surgeon whose shingle was lettered with the "shatter" style of lettering? How would you feel shopping in an antique store whose advertising was lettered in a "futura" font? Here again, the lettering style provides visual cues that are important in creating a certain mood.

The last several years have seen some efforts to put multivariate data in a form to create a facial expression which can be easily interpreted. The expression on this "multivariate" face can be interpreted at a glance and convey a lot of information about the data being represented. For example, the shape of a face can represent affluence. A round face represents wealth while a gaunt, narrow face shows poverty. The shape of the mouth can be used to show the level of employment with a smile to indicate low unemployment and a frown to show high unemployment. Other facial features such as the nose, eyebrows, ears, etc., can be added to represent additional variables. If we plot faces on a map of the city of Los Angeles to indicate conditions in various parts of the city, we will be able to see the patterns of residential desirability (Muehrcke, 1978). For example, the map shows the area around Hollywood and Beverly Hills to be very well off since the faces are round (affluence) and smiling (low unemployment). In other parts of the city, we see gaunt, frowning faces indicating poverty and unemployment. This pattern shows us something about conditions in the parts of a city in a graphic format.

Sometimes, in order to tell the truth, the visual cues in a graphic display must be systematically distorted to reveal the truth in the data to our eye's processing system. In this slide, we have two sets of graduated circles which can be used to symbolize data values on a map. One set of circles is scaled to represent the correct arithmetic relationship between the data values to be illustrated. The other set is systematically adjusted in order to be perceived correctly by our eyes. Our eye systematically understates the value of the graduated circles as the data values get larger. Research in the perception of symbols on maps led a cartographer to come up with the correct amount of distortion to be built into graduated circles. The results are used to create maps which can be interpreted correctly. It should be mentioned here that the results of research in graphics can be incorporated into the computer programs that are used to produce maps and graphs.

Maps by their nature always have some built-in distortion because the earth they represent is an elipsoid (almost a sphere). When geographical features are placed on a map, their position must be transformed from the spherical surface of the earth to the plane surface of the map sheet (Robinson, Sale, and Morrison, 1978). If this were not done, we would have to carry globes around with us and that would be inconvenient. The cartographer, or map maker, has ways to control the various kinds of distortions on maps through the choice of a map projection most suitable for the type of information he is attempting to show. For example, in a map published in 1975, President Ford's route from Washington to Peking was shown (Monmonier, 1975). The accompanying text told of his stopover in Anchorage, Alaska where he made a speech. The Democrats took this event and produced a map which showed that Alaska was out of the way and implied that Ford's trip included some political speechmaking. The map projection used by the Democrats was based on a projection in which Anchorage was out of the way while a different map projection showed it to lay on a nearly straight-line route between Washington and Peking. Which map was correct? Both maps were mathematically correct, but the map which showed the route as a nearly straight line was the correct projection for the purpose of showing a long flight path. The examination of a globe would reveal that the most direct path is a nearly straight line that passes through Anchorage, Alaska.

If we think back to the cold war era, we may remember the map which showed the United States to be relatively small when compared to the Soviet Union. When the Mercator projection is used to portray the world, land masses in higher latitudes appear larger relative to regions in the middle latitudes. Since the USSR lies mostly in the higher latitudes, its physical size appears to be gigantic and the United States miniscule, giving the USSR the appearance of a menacing giant. For propaganda purposes, the improper use of map projections can change the true appearance of areas on the earth and create an exaggeration that influences the map reader to accept that which is not true. An example in which graphic information can be changed to suit a particular purpose is the map used by the Marine Midland Bank of New York. Their map which portrayed the "state of Marine Midland" was really a map of New York state rotated 90 degrees. In this position, the familiar outline of New York state (to a New Yorker anyway) was difficult to see although no other changes had been made.

Another type of distortion occurs in a cartogram, a map in which each subregion on a map is scaled independently according to its relative value for some measure (Monmonier, 1975). For example, EXXON's advertisements compared the "world of oil" and the "world of coal." In the former, the size of the Middle East countries was very large and represented their large oil reserves. The rest of the world was relatively small. The latter should make most Americans feel better since the United States' coal reserves are very large when compared to the rest of the world. Pity the Arabs if the world should turn away from oil and back to coal, if that is likely! The above example employed the cartogram to portray the distribution of energy resources in an easy to understand descriptive format. Several weeks ago, Newsweek showed the distribution of the population and the electoral vote in the United States. Here, the distorted maps were used to give a visually effective portrayal of a timely topic.

Cartograms can also be made which show uniform distortions. For example, if the importance of places is inversely related to their distance from a particular place, we can make a map which distorts distance in a way that the size of distant places is reduced and nearby places are enlarged. If we have a county outline map of North Carolina, we can select a position at Chapel Hill, or any other point for instance, and distort the size of the counties in such a way that distant counties are reduced to an almost unrecognizable size. We could use this to illustrate the fact that nearby things are more familiar than distant places. We have a map which appears as though we are looking at it with a "fisheye" lens.

Now that we have seen some of the potential map types and the distortions that can be introduced, what kinds of information can we show on a map. Certainly educational policy maps will not show airline routes to Asia! The 1980 Census of Population and Housing will be a very important source of socioeconomic data that can be used for educational policy analysis. Since the information will be available for states and counties of the United States and census tracts of urban areas, maps can be an effective tool for presenting data in a spatial format. Problem areas of states or cities can be revealed when the data for geographical entities is taken from the tables and placed on a map. The patterns revealed by the maps can be used to generate hypotheses that can be tested by educational researchers. The distribution of educational funds can be shown with those places adversely affected by a change in a funding formula revealed by the map pattern. All this is now possible. Computer graphics has made the graphic display of information in an easy to comprehend visual form a practical reality rather than something "nice to have if there is time."

A decade ago, census data were plotted on crude appearing maps made on the computer printer. These were basically "typewriter" pictures that were viewed as working maps, but too crude to use in published reports. During the 1970's, this tool of a decade ago was made obsolescent by newer computer graphics technology. Now, reports commonly have computer generated maps and graphs to amplify or replace textual description of data. For example, the state of North Carolina produces an atlas of mortality which shows patterns of death rates by county. Another example of what's possible is seen in this map which shows the number of dentists by ZIP code in North Carolina. The data was obtained from an address file which was processed to make it usable by a mapping program. It reveals the distribution of dental manpower in the state.

The last example illustrates the use of computer graphics for educational statistics. The Condition of Education report is published annually by the National Center for Educational Statistics under congressional mandate (Plisko, 1980). The NCES has recently adopted computer graphics to aid in the preparation of the report. Graphs are produced by computer in which the scaling and layout is done by the graphics programs. The plotter produces a draft plot which is checked and sent to a graphic illustrator who does the final artwork for publication. Prior to this, the preparation of the report had been a major effort for the agency since the manual design and layout had to be done manually in a short time frame. While the graphics for the entire report could be generated by computer, the assistance of the computer in providing draft plots greatly aided in its preparation.

In summary, we have seen how graphics has been used and some ideas about how they can be used. The examples for this presentation were chosen to stimulate your thinking and demonstrate the potential power of computer graphics in educational decision-making and policy analysis. Newer and better user-oriented computer software products for making graphs and maps are now available. In the hands of educational planners and policy makers, computer graphics can become a powerful tool.

BIBLIOGRAPHY

1. Balchin, W. G. V. "Graphicacy," The American Cartographer. Vol. 3, No. 1, April 1976.

2. Monmonier, Mark S. Maps, Distortion and Meaning. Resource Paper No. 75-4. Association of American Geographers. Washington, D. C., 1975.

3. Muehrcke, Phillip C. and Muehrcke, J. O. Map Use: Reading, Analysis, and Interpretation. J. P. Publications. Madison, Wisconsin. 1978.

4. Plisko, Valena W. "A Case Study of Computer Generated Graphics: Computer Graphics in the Condition of Education Report." Paper presented at Harvard Graphics Week '80. Cambridge, Massachusetts. July 21-25, 1980.

5. Robinson, A. H., Sale, R. D., and Morrison, J. L. Elements of Cartography. John Wiley and Son. New York. 1978.

6. SAS Institute, Inc. SAS/Graph User's Guide, 1980 Edition. SAS Institute, Inc. Cary, North Carolina. 1980.

using the computer for educational policy analysis

E. RAYMOND HACKETT

I would like to close this symposium by summarizing what has been said, adding some observations and then have you try the new generation graphics capabilities we have provided at the front of the room.

Both Bob and Grady emphasized that information processing has changed. In the past we talked about number of batch jobs run. In fact, that used to be a measure of our information systems. It is time to find a new measure for our information systems. Perhaps we ought to start measuring our systems by how many decisions were made using an information system, not by batch jobs run.

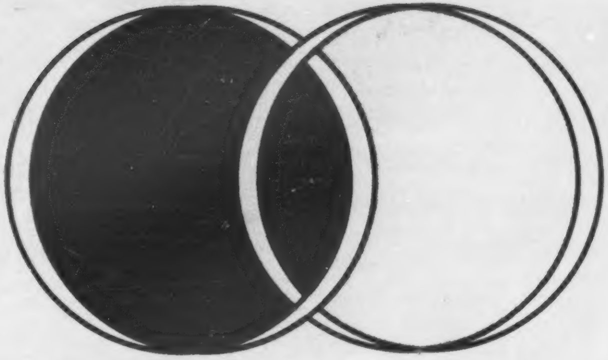
We originally developed this presentation for a meeting of the information system managers of North Carolina. In preparation we talked to all the data directors in that State. We were amazed that the same theme ran through all our meetings. Everyone we visited said at some point, "You know, professionally I am just happy to be alive in 1980." There seemed to be a certain euphoria connected with the end of a decade. It was a decade during which mainframe computers were acquired, information systems developed, common cost accounting and reporting systems were put into place, and software was developed and debugged. Now in 1980 the electronic and information revolutions are accelerating and we are beginning to produce things that are timely, understandable, and affect the process. We see the light at the end of the tunnel, and what a light! Hardware and software development is proceeding at a staggering rate. Unfortunately, now everytime we need hardware the legislators refer to the mainframe acquisition in 1968. Of course, that problem is also being resolved because prices are coming down.

I have just joined the Council and a large part of our charge involves dealing with regional information, both educational and social indicator information, and policy analysis issues. I had the good fortune to work for several years with the staff that managed a state department of education. I learned there that it is very difficult to get top level management, the legislators, your chief state school officers, governors, to attend and to use some of the more complicated but more powerful information we have available. How do we get people to attend to what we are doing? I feel that it is important that the best available information be attended to not only for the sake of my job security but because I feel that is one of the keys to more effective government.

I had an interesting experience before I left my last job. I was talking to someone whom you would consider top level management and another staff member came up with a brochure on the Domestic Information Display System (DIDS). DIDS is a massive information system that NASA has been working on for the President. Basically, it will place Federal domestic information on a screen in color graphics in about four seconds. Any of you can have DIDS if you have $80,000 to buy the terminal and have a direct line to NASA. In this little brochure there was a DIDS generated map of the Potomac Basis with socio-economic status (SES) data colored in. The map had very light yellow around the bend of the river representing the low SES districts and darker shades out in the suburbs representing high SES. Well, the top level manager flies into Washington often and got very excited when he saw this map. Apparently, there are bright white Argon lights in the low SES districts which have a very high crime rate. So as you fly into Washington, you actually see the same U in bright white with more mutted yellows as you look out into suburbia. That was as excited as I have ever seen that person get. That map said something about his constituents. That map said something about a social effect, something that must be dealt with. I left for my new job with the Council determined to make graphics readily available in the work I was doing.

We have asked the Institute for Research in Social Science to explore computer graphics for the Council. What we are finding is that there are other systems like DIDS that are expensive and very good and can get an image up very fast. But there are also systems rapidly becoming available that are quite reasonable. SAS Institute, as we mentioned earlier, is one of the more promising data analysis and display systems and can be purchased for around $5,000. SAS can do very sophisticated analytical techniques. They have just released a new trend series package that is outstanding. It is as good as many of the projection packages you see on the market, yet can go from trend analysis into a graphic capability. I think what it boils down to is that in 1980 we can inexpensively take data, transfer it into information, and then get that information in a form which top level managers will attend to. It is the time when we really can actualize information systems. Make them part of the process. Make them things which are attended to and which we go to, even on the moment's notice, with some problem being faced.

This is the challenge before those of us in this room. When your systems are being routinely used, you will no longer face inquisitive budget committees; there will be no question as to the efficacy of your system. In closing I propose a new social indicator. When you have gone a year without a legislator asking what you do, you will have an indication of the maturity of your system. I hope that day is soon.



the impact of technology in shaping our values

the impact of technology in shaping our values

EARL C. JOSEPH

My topic is going to be future alternatives for education. We are going to look at future schools and many other aspects of education.

Once upon a time there was a minor German poet who was asked where he would rather live if the world was coming to an end. He said, "Great Britain." When asked why, he said, "They are 100 years behind the time."

With a slight exaggeration, we could make the same statement about education relative to the use of technology and the value questions associated with our society. Our typical image of education is what do you expect from a generation who was educated by a big yellow bird, got its rhythm from a country guitar, its moralities from Saturday morning cartoons and its image of the future from reruns. Don't you believe it. It's a myth. You can look in the classroom and you don't see that sort of thing going on. As the result of that big yellow bird on Sesame Street by the time children arrive in school, they know how to socialize and they are not doing the things that many of the public think they are.

The first generation or the last two decades of the study of the future, the modern study of the future, all of the futurists were researching the coming doomsday because we had the perception that the only way to get change was to create a fear of how bad it is, or the coming of doomsday. Most futurist perceived their role in society as the early warning system and to program that fear to get the major decisions for change. The doomsdayers had their day in court. During the last two decades, the population bomb has been defused almost worldwide except for a few percent of the population. It is no longer on that J curve of exponential growth in the 1970 decade. It has tipped over to the S curve. It is still growing, but at a very much slower rate. The energy crisis didn't create the dark age which it was suppose to do. We have learned how to manage and to grow into some alternatives, although they are not in place. The pollution ecological crisis did not produce a garbage can in the world. We've learned how to manage the resources. Even Lake Erie, that we were told was dead, is coming back to life.

The new trend for the futurist is not so much to search out those doomdays, although that is part of it. The major turning point in the value paradigm for the futurist is to search out opportunities and to create opportunities, and to find the scenarios for desirable positive futures. I want to spend part of my time with that value paradigm, rather than the doomsday one.

Futurists never tell you what the future will be, only the alternatives. Now you know what I will be talking about. I'm not going to be predicting. Like any other futurist, I'll be giving you alternatives and trends and some most likely futures. In some cases I'll put some probability statements on the possibilities.

"Art, wake me up when the preferable arrives." That's how many of us feel on Monday mornings especially for those going to school. "One foot one inch, ten feet five inches." What are you doing? I'm measuring the quality of life. Usually it is not in inches and feet, usually it is in dollars and cents. A real problem in doing anything about the future is to have the right cut of a yardstick. Can any of you make the statement that your institution that you are a part of is more loving this year than last year? If you don't know the answer to the question, how do you know what you're doing today, tomorrow and yesterday, and the decisions you are making as to where they are taking you towards have the positive values that you hold so dear. You see, if we don't define these positive values, at least partially, and then measure them, we cannot place ourselves on the trend path where we are moving towards those positive values in the future. We then can't help toward the direction that we hold so dear. So, our first stumbling block is to find out that yardstick, to get it stated and measured and get the trend pattern.

I have had the wonderful opportunity to teach about the future at all grade levels in this country and in many other parts of the world. In almost all of the schools I've been in they have pure white walls and ceilings, and the educators wonder why there is sterile thinking going on in the classrooms. There is some new research at prisons in which they have pink rooms. The reason for the pink rooms is that the pink rooms slow down your heart a little bit and reduce your trend towards violence. So on certain occasions, on a timely basis, they put some of the inmates into pink rooms. I can imagine a pink room for the school, or a red room, or a green room. What will these colors do? What will the shape of the room do? Well, it turns out that I go to the board room of a major corporation like the one I'm a part of and they have these beautiful nice warm rooms with dim lights. And they wonder why everybody goes to sleep in fifteen minutes while they are making all those decisions. I was invited to a high school a number of years ago, and the teachers that had invited me said, "Earl, don't come when the students are changing classes." I said, "Why? I like to talk to the students." And the teachers said, "Yeah, but if you are in the halls with our students, your life is in danger." So I decided to follow the ground rule and got there when they weren't changing. The guard looked at my identification and let me in. When I got into the halls, I understood. They were the most beautiful halls I had ever seen, brilliant reds and yellows and psychodelic patterns. And they wondered why the students were hyperactive!

We have learned a lot in the last few years about the environment with which we surround ourselves. Whether it is the color or shape, education or technology, the social or religious environment, all these environments and many more dictate or limit or control or expand what operative behaviors can occur and what values are possible. What operative value systems are possible in those surroundings? We are learning that now. So what type of value system do you want in your institution? What value system do you want for the future? As futurists then, we need to learn what shapes and colors, what educational environment, what social environment, what political environment shape the values that we want to drive toward. In other words, we have to make a value selection and to get that yardstick.

What will the future be like? Well, I'm not going to be able to answer that question in total. I am only able to scratch the surface. About five percent of the world's population has moved to the Information Age, that part of the Postindustrial Age that is characterized as the Information Age. You might ask why we call it the Information Age? Well, in the United States, 70 percent of our working population work at some job directly related at doing something with information. That's why we call it the Information Age.

If I was going to give you a one word history, I would say, farmer, labor, clerk. You see, if we go back in history to when we were being formed as a country, over 90 percent of the population were farmers. Not too many decades ago, over half of us were working directly in the factories. Today on the farm it is less than four percent; today, in the factory less than 17 percent. What's the biggest categories of things we work at? If you look at the Department of Statistics, they say clerk. Later I am going to show you what a future clerk will look like in the Information Age.

How, did this happen? Well, we developed tools, some new tools and appliances coming on-stream and some old ones that raised the productivity of labor. In the Agricultural Age, we have the multiple gang plows, harvesters and discs and the combine. These things amplified what a person could do on the farm and the use of the land to grow things. A lot of people retired and it went down to four percent. If we were just going to supply the food for the United States until the end of this decade, we would require less than one-half percent of our population out on the farm. We are pretty close to that already. In one sense, we have too many farmers. In the other sense, we don't have enough because the farms are too big, dependent upon your value system.

The reason we have cut down to 17 percent of the population working directly in the factory today is such things as laiths, drills, spot welding machines, milling machines and computers out there on the factory floor. It is estimated that what we do in the factory by the end of the decade will require less than five percent of our population to supply all of our manufactured goods needed in this country.

For the Information Age, what are the tools? Well, what are we working with? We are working with information. So, the type of people amplify our appliances that will raise the productivity of people related to making use of information and knowledge. We must expect some new businesses as a result of the falling away of old businesses. You've seen what has happened to watches and cameras and appliances and recently the automobile industry and steel industry. What's the next great American business that's going to be in trouble. Do you realize that the largest import last year was not oil into this country. It was manufactured goods. That tells you a story in itself. We are marching away from the industrial society. That does not mean that we won't be a very large producer of goods in the far future or even the near future. We will continue to be, but it will not be the major thing that we will be doing. That means there is a drastic value system change occurring in a transition period, away from education required for people in the factory and to get a job for the student. We have long ago left that ability to our public schools. When you receive a high school diploma, you are not ready for a job, although that is one of the things parents think you are and a great amount of the public does too. Anyhow, we must expect new jobs and new careers out of the new Information Age because there are new businesses coming on-stream. Some of the Information Age tools we have already: computers, computer mail, microcomputers, paperless books, video discs, word processing, teleconference centers, and the list goes on and on.

I do not intend to talk about those and the technology. I intend to talk about some other types of tools that will impact education and the information society.

What's next? Well, let's look at some of the transitions we are in. We are reconciling the South worldwide. This means that the Southeast has a very different future on its agenda than it had before. It has taken away industry, in a sense, from the North. The North is rebuilding the magnate type attractions, the tax laws and the tax incentives and many other types of incentives to pull it back. There will be a confrontation, from that viewpoint, with the North and the South as industry and jobs and the warm sun climate pulls people and efforts into the South. Now this is a worldwide phenomenon. However, in many cases, it is not just pulling from the North of one country to the South of that country, it's pulling from the North of one country to the South of a different country. So that type of dynamic - world dynamic - is due to two reasons. The energy crisis, in order to ease the energy pain a little and the cost of it, moves populations and industries South. The second and major reason is that the third world is becoming a single voice. They have become and will become a gib world power along with the other large world powers and they, in fact, could have a bigger voice than most of the world powers have today as they find their voice.

We are also changing the geographical location of our acquisition sources and that dynamic is causing a lot of problems. You see what happened in less than a decade with the OPEC problem and where we get our oil. In 1973 nine percent of our oil came from the OPEC nations; today, we get over 50 percent. That is quite a switch in less than a decade of where we acquire oil resources. The same thing is happening with water, minerals and other resources. This is quite a transition in itself and demands that industry move for energy reasons as well as mineral reasons. In the past it was cheap to move the raw minerals. Today, with energy costs as they are and spiraling, it is not so cheap. It's easier to move the factory where the minerals are. This is another reason why there is a drastic shift in the industrialization. This part of the world is moving into the Information Age and 60 to 70 percent of the world population is moving into the Industrial Age which includes China, India, and much of Africa to South America. The switch is occurring almost overnight. It will occur in about one or two decades, a very quick change for a world.

In our political and management systems, we are moving away from single issue things and reactive decision making towards coactivity and opportunity generating, rather than problem solution. Our ethical system is moving from the problem solution ethic on which we based our education and politics and all of our management things for 300 years. We are moving into the opportunity generating ethic and we don't have the word phrases for it. In all of our sciences like math, chemistry, physics, we talk about problem solving. Can you give me the term or phrase that would trigger your mind for opportunity generating? It is nonexistant in our language base. We are making the switch now, so we have some stumbling blocks.

From our value viewpoints with the transition era we are in and when we look at the technology that is explosively changing, you see chemistry and physics in the synthesis paradigm for quite sometime and almost all of the other sciences on the analysis mode paradigm, where we now create life. Chemical and physical metallurgy is moving into the synthesis area. Computers and the information sciences and even the sociological sciences are ready to make the switch into the synthesis mode. That's a drastic value system switch going on at the present time.

The list of transition types goes on and on and how they impact the value systems. Look at the chemical-physical one since it is on a new value system switch to the synthesis mode. Today with the computer and laser we can interrupt chemical action in the picasecond time region. How many of you know what I mean by picaseconds? One person. Do you know what millisecond is, that is 1/1000 of a second; a microsecond is a millionth of a second; a nannosecond is a billionth of a second; a picasecond is a trillionth of a second, so it's 1/1,000,000,000,000. That's a tiny piece of time. Anyway, interrupting atomic or molecular actions in that time region allows us to create molecular combinations of molecules that nature cannot create itself. Even though the lifespan of such molecules is only a few thousand picaseconds. During their life, they are capable of being a regent or a catalyst to allow nature to combine things that are otherwise impossible. So what this really means is that we can now specify, program and code our materials and our chemicals. All we have to do is learn how to do it.

How would you like to have a building material for your future school or home that is 20 times stronger than steel, lighter than balsamwood, more flexible than rubber, and lasts thousands of years? Well, if you know something about the molecular structure, you could then create that. How about a material that lasts 100 years? How many would like to wear the same clothes the rest of your life? What if we make those clothes self-cleaning, self-deodorizing and self-pressing? The dyed chemical impregnating the material is small enough to detect if there is a stain and causes a catalytic action to bleach it out. If you should get the smellies, it detects that and takes care of it. There could be produced a smart enough type of a sensing chemical such that it can sense the environment externally, determine whether a cold or flu virus or something like that exists and, if there is, cause a counter-agent to be activated after the catalytic action, either producing an aura, not halo, but aura, or impregnating the skin with the counter-agent. You can change on command the clothes material, the color, and shape. If you don't like a wide collar, you make it narrow. You can have the collar one color and the rest another color or change it from moment to moment. Now, how many would wear those same clothes? My what a fickled group? You just changed your mind. How come you changed your values there, just like that?

Well, you have some knowledge about what the future has to offer and the basic rationale why we need to become literate about the future. If you didn't know that, it couldn't be a part of your choice base and it wouldn't be pushing society to do it. So it is very critical to know something about technology in order to do something with your value system. It is not the only thing, but it is a big impact on the value system. I can't overstress the transition period we are in at the present time, transitioning to very different things.

As I stated, the United States and parts of Europe and Japan are moving from the Industrial Age to the Postindustrial Age. And as I said earlier, over 60 percent of the world population is moving from the Agricultural Age into the Industrial Age. Unfortunately, our institutions lag not by decades but by eras. We have for example a Department of Agriculture, we do not have a Department of Industry. We do have a Department of Commerce, but not Industry. We do not have a Department of Technology or a Department of Information and we are now in this age. We have four percent of the Agricultural Age and we do have a Department of Agriculture. Do you see what is happening? Our institutions are way behind. Canada is about ready to move into the Information Age, so what are they talking about, a Department of Information. A logical thing to do.

Now, we have a Department of Defense and guess what happens when you have them in countries. Well, it's called war. Twc hundred years ago we had a forefather who was incapable of convincing Congress that they should have a Department of Peace. His name was George Washington. That Department, or that George Washington thing in Congress, has been there 168 times by the last count that I am aware of, and each time was unsuccessful in its ability to create a Department of Peace. As a result, we don't set up the mechanisms to build the machinery of peace. We know what the machinery of war is. Can any of you tell me what the machinery of peace is? How come you are silent? Ask some sixth grader sometime or some fourth graders. Their hands will be up, every one of them. You should try to sometime in a classroom. We've lost something with education and we've turned ourselves into a bunch of negative people. We have all the reasons why things will go wrong, seldom do we have the reasons of how to make things right, to create those opportunities. Young students do.

The usual characterization of the ages were hunting, farming, industrial services, resources; nature, land or information. You can see what happens to education experiences, family, lifelong experiences - big changes, big transitions. The one word type histories can't do it all of course; they can certainly give a different picture than a 300 page one, than trying to determine history and transitions.

Now, I am going to speak about the schools of the future. I am going to have some bad news for education as well as good news. Some of the bad news is really good news when you think about it. However, on first glance it is going to look like bad news. The first area I want to talk about in the future of education is the new type of people amplifier appliance for the Information Age. How many of you would like to have a smart teacher's machine? How about a smart management or administrator's machine or smart lawyer machine? I think you are familiar with the hand-held calculator. Let me call that a people amplifier appliance. This one is a little more capable than the basic four functions, and let me call it a smart mathematician machine. Nobody notices that I don't hire a mathematician and pay him 15 to 20 thousand dollars a year to do square fitting and exponential smoothing and extrapolation because I can buy one of these for $29.95 that allows me to push a couple of buttons to get the answer. And I don't have to spend hours and days discussing this with a mathematician. I can get it done in a few minutes. Some of the newer ones even tell me how to do it.

Have you seen the new microwave oven? It says, throw away your cookbook? Why? It has 40 buttons on one side and these buttons are labeled. It might be roast, cake, cookies, vegetables. Now if it is roast, you push that button. On a little screen, much bigger than this one, it says how much does it weigh? So you push in six pounds ten ounces. Then it says how do you want it? Rare? That's why you can throw away your cookbook. Can you imagine putting that in other types of machines whether you are talking about the doctor, the lawyer or the teacher? How many would like to have a smart teaching machine again? Who will make the most use of this? You or I or the mathematicians? What happens to the mathematician? What happens to the teacher when we create this? What happens when we create one for the doctor? Smart doctor machine? Does it reduce the number of such professionals that are needed? How many would claim that we use fewer mathematicians as a result of the calculator? How many would claim that we use more? What actually happens is that we are moving into the Information Age where we need more information, that means information is also numbers. We need an amplifier for the use of numbers. The reason that we got this in there was not because it is a toy, but because it is a need. It doesn't reduce the number of mathematicians required. It makes the profession called mathematics or concepts or science of math more useful.

As a result, even though people are doing what mathematicians used to do, there are more mathematicians required. What those professional mathematicians do is different now. As we will be creating smart management machines or smart doctor machines, it will make those professions more valuable to society, more useful in the real time of what you and I are doing. But, it does bifurcate that profession. It allows the clerk to do what the professionals are doing today and it elevates up the profession. When the doctor comes to the office Monday morning, they see first the cold, and that is all they see the rest of the week. The next Monday they see the first case of the flu and that is about all they see the rest of the week for two weeks. The clerk could do that, if that clerk had the proper people amplifier. If you make a study of the daily job of all our professions, that person uses much less of their brains than a professional and that's where they cast them. What I'm telling you is that we're giving them the tools to do what the professionals are doing today, and then elevate the professional with these people amplifiers.

Now we have a new science. It is only a couple of years old. The name of the new science that deals with these new devices that have some primitives in them, some way of getting information in and out, some stories and some communication capabilities is called ethnotronics. It comes from ethnic and electronics because we do set up an electronic culture with these types of devices. It is a machine culture as well as a new people culture. The definition is the science of the relationship that humans and society have with machines hardware, "inorganic systems which amplify their mutual capacity for learning, reasoning, decisioning, accessing information, knowledge and communication." That's being taught at a couple of schools at the present time. The name was coined by Professor Arthur Harkins at the University of Minnesota working with myself and seeing some people amplifiers. Between the two of us with the help of Professor William Johnson over at Bethel in St. Paul, we came up with this current definition.

The first generation are in the smart machine category. Some of those are already available in the research and are switching them to the systems type. The technology is silicon chip technology. This is a silicon chip. It's about an eighth inch piece of silicon. It surprised a lot of people that hardware is really glass with a little metal evaporated on it. The way we make this technology is to scoop up a lot of sand, sounds like Genesis from the Bible, but that is the way it is in this field. We put it under high temperature and high pressure and grow out of it almost pure silicon crystals which we slice up into very thin wafers. Then we imbue into that wafer impurities to make the circuit elements for transitors, resistors, and capacitors.

Why am I discussing hardware in detail? I am going to make a claim that our value system on technology is all haywire. Eighty percent of the decisions in lawmaking that are mitigated in legislative bodies deal with technology. There are only one or two people in congress who have been schooled on the hardware technology side. One is an astronaut. Yet, 80 percent of the decisions are technology based. What does this tell you about our education? It has lagged to where it is the biggest dropout we have in society.

When did you start teaching about energy. Before 1973 how many were talking about the energy crisis and what to do about it before then? How many of you are now? Do you know when the educational system started to research it? 1976. There are a lot of schools that don't even have a course in it yet. Can you imagine that! How many of you think we can wait a generation of 30 to 35 years to solve the energy crisis?

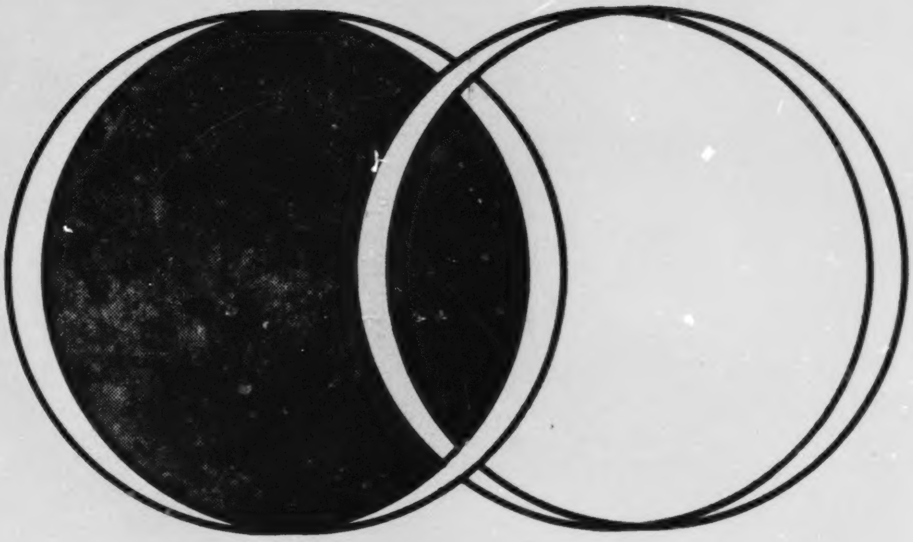
I don't understand it, all of you in the education system have that type of value system. Your value system in education is to inoculate the youth. Then they get their badge of power. What is their badge of power? It is called age. A generation later, they are supposed to correct all the mistakes adults made and grab hold of all the opportunities we missed. That's the value system of education. The value system is to inoculate youth and culturize them. How many of you are living in an area the same as your parents? That's the way you were educated. How many of you are educating in your image today? You are making misfits for those students that are under your responsibility. You are making them experts to live in the past, misfits for the future. There is only one rationale why you come to a conference like this. That is to prepare yourself for your future. How many of you are teaching about the future today or have been? How many of you are teaching about the life cycle of that student? Are you providing the environment for those students to learn about their future? Is your school system? If it is not, those children are in trouble.

The processes of going from something big to something little back to something big is called added value. That is how we have learned to make a buck, we've handled it a lot.

Today, we can get a million to two billion bits of memory on a piece of silicon. Two million bits would allow you to have about a 100 page book. So today, you can buy a book in this area. Of course, you would have to wrap some other technology around it so you could read it, or listen to the book.

Management Information System is one of many types of applications that are being translated to silicon at the present time. A few years ago, it cost a million dollar computer plus 100,000 words of program to get that management information system. In fact, that's what they looked like. Today, whether I put one circuit or a million in mass production to make that, it costs a dollar or two. Of course, the development costs for a 10,000 circuit component is about $10,000,000. If you make ten million of them, how many do you add for development for each one? It costs a dollar for manufacturing. You mark it up ten percent and it goes for $500. See I have a degree in mathematics and I never did learn how to use percentages.

How many of you are teachers? Can any of you tell me what a teacher does? I'm sure you could in terms for another person to understand it. What are the primitives of a manager or teacher or politician, or any other profession in terms we can wire it up in there. They are certainly not add, subtract, multiply or divide. We haven't done our homework, our research development for the period we are in, for these types of machines. So you know what the future is going to be like. Somebody is going to discover four basic primitive functions of teaching. They will put it in a device not unlike this. It will be $500 and all of you will rush out to buy one. Three years later when the product gets down to $39.95, you'll discover 20 more primitive functions. Then the price will only be $20 and all of you will rush out to buy another one. Then two years later, or three years later, when the price is under $10, they will magically find 50 more. There is no other way to do it. We have lagged in our research in this area. We haven't looked at teaching hardware. We have looked at teaching people. We are at the point of putting these types of functions in the hardware by wiring in. Shall we call that teaching hardware?



closing session

conference epilogue

ROYCE B. WALDEN

Good morning. I enjoyed working with the planners of this conference. Personally, and on behalf of Orange County Schools, I wish to welcome the Board of Directors of the Southeastern Regional Council, the staff and participants.

When I was asked to be prepared to give an epilogue, I was somewhat concerned. I read it incorrectly the first time. I did not have my glasses. I said, "My goodness, they're asking me to give the eulogy. The conference is already dead." But my secretary helped by providing me with additional directions.

Holding the Second Conference on the Future of Education in Orlando, Florida is very significant because this is the home of Walt Disney World. This company is spending some eight hundred million dollars developing EPCOT (Experimental City of Tomorrow) and the World Showcase. This attraction is scheduled to open on October 1, 1982, at 9:01 a.m. Walt Disney World does have relevance to the conference because of the futuristic ideas designed at the Disney development.

Further, it is interesting that this conference is held here because sometime in March or later the shuttle is scheduled to be launched from the John F. Kennedy Space Center. That is very significant, because man has generated speed with the automobile, the train, and he has moved to speeds of over 25,000 miles per hour. Now we are talking about the shuttle. We are talking about utilizing computers, linking technologies in order that man can reach and stay longer in space.

For the past 48 hours, we have met and discussed such technological accomplishments as TV, satellites, the video disc, and many others. We have discussed how these technological advances may be utilized in education in order to effectively help boys and girls. At the Navy Training Center, they have embarked upon technological training, using some of the modern equipment necessary to train those individuals in the Navy that will be responsible for protecting our shores. It may be important for us to understand and to remember as we pursue our work next week and weeks to come that it takes more talent to train a child than to conceive one. Also, it is important for us to understand the rate of change as well as the changes that are taking place. I perceived these kinds of discussions flowing through this conference over the past two days.

The American educational system is growing. Yet, there are some of us who are somewhat optimistic about all this growth, there are others who are somewhat pessimistic, and some of us are in the middle. Some of us are looking for a Utopia, and there are others of us who are looking for a doomsday. But let's talk about the pessimist. Let me define that for you. Don't worry about it, it's fine. I think it is a part of our culture, it is a part of our lives. A pessimist is one who is optimistic about the past. That's how simple it is. Don't worry about that person at all. Now let me define the optimist. An optimist is an individual who states that no job is too difficult. So I would say to you that I would hope the the experiences you have had during these days will help you to be able to be very cautious. I don't think that a Utopia will happen because of the pending technology and the use thereof, and I do not give out a doomsday view and say it will not happen. I think we have a responsibility to be very cautious and move forward.

I had an opportunity to attend a number of outstanding sessions. I got the feeling, in some instances, that there are some individuals who believe there are simple solutions to simple questions. Now, let me define what I mean by simple answers or simple solutions. There are some people who believe that food comes from the supermarket. That's a simple solution. There are some who believe that energy comes from the utility company. There are others who believe that health comes from the hospital. And would you believe it, there are some who believe that Puerto Rico is a nice place to send Cuban refugees for retreading. However, there are some questions that I think are more germane. How can we as education administrators be effectively involved in these changes? What kind of support services will be needed in order to participate in these changes? Will we be able to provide the financial means to secure the hardware and the software? Will the use of improved technology be cost effective? Will there be a new role in governance as it relates to public education? Will we be able to address adequately the critical educational policies and issues that will face us during these changes?

I think there is one key to all of this in trying to address those questions and others that may be forthcoming. We must recognize, or we must continue to recognize, that we have a knowledge explosion, and with that knowledge explosion will come challenges to us and those who will follow. For example, in 1900 we have 50 percent of our people living on farms. Today, we have less than two percent living on farms and producing the food for us throughout the country. What is the biggest industry today? It's not farming. It's not the industrial side of it. It is information. Fifty percent of all the people in the United States are involved in the information part of our economy. We are provided with computers to provide us information. People are waiting to determine and find out whether or not they will be able to buy just one or two shares of Apple Computer, Inc. It provides information and this is very important.

I think it is very significant for Dr. Lewis from the University of Florida to bring to our attention the Amherst update. This is an important trend and movement regarding the state of the art as it relates to technology. I heard him say something like this - "The viewer is sitting in front of a television. The scene he is watching is exactly the same as he would see if he were in a moving car down the middle of the street in Aspen, Colorado. The car approaches an intersection and the viewer touches an arrow on the bottom of the TV screen. The car turns left at the intersection and proceeds down the cross street, and at the next corner the viewer touches the right arrow, and the car turns right, and on and on and on, until he finally gets to the city hall, and then he says, "Stop." He touches the screen and it stops. When it stops, someone asks the question, "Would you like to see inside city hall?" Just think, with this potential we may be able to save energy. So in a sense, knowledge can be a substitute for energy. So knowledge is the capital of the future, and also the frontier of the future. If one does not get excited about the speed at which we are generating knowledge, then I would suggest that that person be fertilized at least once a week to try to keep up.

Let me conclude by saying to you that we must look up in order that we may continue to see the horizon, and that technology must be used and not abused.

us department of education: the role of the regional office

WILLIAM L. LEWIS

Ladies and Gentlemen - I appreciate this opportunity to speak to you on behalf of the U. S. Department of Education. We are a new cabinet level department - Having been created by an Act of Congress (P. L. 96-88), and action of the President of the United States in October of 1979.

These actions created, for the first time, a cabinet level advocate for education with direct access to the President, the Congress and the public.

Administrative improvements in the Department will offer real benefits to states, localities, schools, and students through better service and a lessening of red tape. However, the firm, national tradition of state and local control over education will not be impaired in any way by the reorganization. There is express provision in the legislation prohibiting the Secretary of Education or any officer of the Department from exercising any direction, supervision or control over local education programs, the federal role in education is limited and specific.

The Federal Agency is authorized and mandated, the purposes are:

1. To supplement and complement the efforts of eligible education agencies, institutions, organizations, parents, and students to improve the quality of education.

2. To encourage involvement of the public, parents and students in federal education programs.

3. To promote improvements in the quality and usefulness of education through federally supported research, evaluation and sharing of information.

4. To improve the coordination of federal education programs.

5. To improve the management and efficiency of federal education activities, especially with respect to the process, procedures, and administrative structure for the dispersal of Federal funds.

6. To increase the accountability of federal education programs to the President, the Congress, and the public.

Regional Offices

There are ten regional offices in the U. S. Department of Education. They are located in ten different geographical areas of the country. Each regional office serves as an extension of the Office of the Secretary to insure and enhance the purposes of the Department.

The Region IV Office serves eight states. (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina and Tennessee.)

I. Intergovernmental Services

On behalf of the Secretary of the U. S. Department of Education, the regional office establishes and maintains contacts with offices of Governors, State Education Agencies, state and national education organizations, community based organizations, Higher Education Institutions, and other organizations that have interests in education. This provides opportunity for the exchange of information that may have bearing on Federal policy and practices for service delivery.

II. Education Dissemination Services

The supply and exchange of information within the community is an important function of the regional office. Actions include the preparation and dissemination of various kinds of documents and materials - including:

A. News releases concerning new developments and activities in the Region.

B. Newsletters on Energy Education and other activities.

C. Reports to State Departments of Education concerning discretionary funding within each State.

D. Responses to inquiries regarding legislation, policies, resources, and new developments.

E. Identification of promising federally funded programs and practices.

III. Education Services and Technical Assistance Services

These services are provided to assist educators and administrators to attain their goals.

Through these services, we strive to provide region wide program leadership and administrative management in two broad categories of technical assistance.

A. Information and advice, with respect to statutory policy and administrative requirements for federal financial assistance or benefits, intended to facilitate the efficient transfer of federal resources.

B. Development and management assistance to educational service providers. This is intended to enhance the leadership roles throughout the educational community consistent with state and local responsibilities for education.

IV. Some examples of special activities through which services are delivered include:

A. Energy Educational and Management Workshops. We have conducted two very successful workshops that involved the U. S. Department of Education, the U. S. Department of Energy, Tennessee Valley Authority, energy education administrators of each State Department of Education, energy management directors of the Offices of Governors of each state, colleges and universities and some local school systems. These workshops provided for the exchange of information regarding problems, and successes relating to the conservation of energy in educational facilities. More than 200 people participated in each workshop.

B. Workshops on the Education Division General Administrative Regulations (EDGAR). One workshop has been held in each of the eight states of the Region. Discussions were conducted regarding the contents and interpretations of the changes in the regulations.

C. Grant Writing Workshops. The Region IV Office of Educational Programs has a team of professionals who conduct Grant Writing Workshops. The workshops are three days in length and cover all aspects of grant writing, from needs surveys through evaluation. The process requires 20 clock hours of class time. Items covered include grant availability, topic selection, the development of goals, objectives, activities, milestones and project techniques, the budget, the format, the abstract, the appendix and the table of contents.

The workshop is equally divided between general group meetings and small work groups. Mini-proposals developed, are scored for relevancy, clarity, and timeliness. Scores are discussed and the participants discuss the reasons for the scores received.

Region IV grant applicants, perhaps for failure to submit enough "quality" grant proposals, have often failed to get an equitable share of the discretionary grant dollar.

The program ideas may be excellent, but the methods of presenting them may, in some cases, be in need of improvements. The whole purpose of these workshops is to improve the readability of Region IV grant applications. A case in point:

On November 9, 1979, former HEW Assistant Secretary, Dr. Mary Berry, announced $12 million in grants by the "Fund for the Improvement of Postsecondary Education," one hundred eighty grants. Take note of the following.

> Region IV (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina and Tennessee) had 16 grants funded for a total of $888,210 or an average of $55,513 per grant.

> Region II (New York, New Jersey, Puerto Rico and the Virgin Islands) had 35 grants funded for a total of \$2,610,382 or an average of \$74,582 per grant.
>
> Region III (Pennsylvania, West Virgina, Maryland, Delaware, Virginia and Washington, D. C.) had 28 grants funded for \$1,815,321 or an average of \$64,833.

Any way you slice it, Region IV was behind these two regions. Among the ten ED Regions of the nation, only Region V (Minnesota, Michigan, Illinois, Indiana, Ohio and Wisconsin) has a larger population than Region IV.

These workshops help grant writers, and prospective grant writers from Region IV to develop and/or sharpen grant writing skills so that this region can get its share of (discretionary) grant dollars. There is no cost for instruction or materials used in these grant writing workshops. The participation or the sponsor, must pay participant travel, lodging, and per diem. We request that participants come in pairs (two persons per agency or institution). The cost they pay for the instruction, is their commitment to attend all sessions. This activity requires three full days of active participation. Training sessions are limited to a maximum of 40 people and a minimum of 10.

The agencies/ institutions to which we will grant priority are: small private nonprofit agencies (annual operating expenses of less than \$500,000), predominately black colleges, small public or private postsecondary schools (less than 5,000 enrollment), and small local education agencies (those with less than 7,500 pupils) K-12 and who have less than their state average per pupil expenditure for FY 1979. This, however, precludes no one, it only sets priorities.

Due to limited travel funds, many of our workshops must be held in our Regional Office Resource Center, which can accommodate up to 50 persons - work-conference style. Occasionally, we can bring our workshop to your site. In any case we will be pleased to discuss these options with you when you call or write.

If your agency/institution would be interested in sponsoring such a workshop; or if you would be interested in attending one, please call or write us at:

U. S. Department of Education
Office of Educational Programs/DES
101 Marietta Tower - Suite 2221
Atlanta, Georgia 30323

D. Other types of technical assistance are offered to help resolve specific problems as they are brought to our attention.

I want to emphasize the fact that the Region IV Office exists to provide service for you. Please let us know when you need assistance. We will be happy to help you obtain the information and resources that you need.

Thank you for your interest.

redefining education in a changing present for an uncertain future

CHARLES WEINGARTNER

Trying to say something that makes sense about either education or the future, singly, much less in combination, in fewer than several hundred pages is, for me at least, what might be called a "challenge."

That being the case, I have tried to identify a particular educational issue that relates specifically to the future, and to describe, briefly, why I think it is of central importance.

Charles Kettering said he was interested in the future because that was where he was going to spend the rest of his life. Most people are interested in predictions about the future, if not for Kettering's reason, then, for the purpose of inducing the illusion of "control," which in turn, permits the illusion of "security." Predictions are the province of astrologers and tea-leaf readers, and these flourish because most people prefer reassuring lies to disconcerting truths.

But, however contradictory it might seem, futurists are not primarily concerned with "predictions." They are concerned with projections of probabilities. Even so, inaccurate projections are much more common than accurate ones.

Arthur Clarke, for example, reminds us (in PROFILES OF THE FUTURE) that most "experts" have been wrong (always on the short side) in their attempts at prognostication because they merely extrapolated from current trends. It turns out that the most important "element" to consider when developing a future scenario is "chance," the unforeseen, the unexpected, or the "X" category as I call it. This "X," incidentally, stands only for "unknown," and is not necessarily "prurient."

What this means is that projections are best made in a general systems (or ecological) context in order to achieve some sense of the complex matrix of continuing transactions among the various "elements" that comprise the system so as to permit some relatively feasible inferences to be made about future probabilities within the system. Various metaphors may be employed in structuring such a context (or perspective), and it is crucial to keep track of these since they shape the system that we "see." Thomas Kuhn has written one of the most important books of this decade, The Structure of Scientific Revolutions, explicating the effects of structuring metaphors (or paradigms as he calls them) on our perception and judgment. In a way, his book is a footnote to Heisenberg's reminder to us all that: "We have to remember that what we observe is not nature itself, but nature exposed to our methods of questioning." The metaphors, or paradigms, upon which our questions are based, in turn, determine the nature of the questions we ask.

Many of the "elements" that comprise the general system in which public schooling functions, or attempts to function, are familiar to all of us. But, along with Heisenberg's reminder, we must also remember that even if we can agree, in general at least, on the elements that characterize the system, we have no assurance that we can reach a consensus on what meanings might be assigned to them. It is one of the most bemusing "facts" about the human condition that different people looking at the "same" situation (as we so quaintly put it) will commonly come up with strikingly different inferences as to its significance or meaning. The reasons for this are explainable, and they raise many questions about the most common assumptions underlying conventional schooling. They are essentially subsumed under what is called "the transportation theory of communication." In this theory, "information" is seen as distinct, quantifiable commodity that can be "transported" from one person or place to another via some form of "communication." In school the term "content" is used synonymously with "information," and the terms "cover," "get across," "impart," and even "teach" are used as synonyms for "transport." That there are serious deficiencies in this theory (metaphor, paradigm) can be attested to by anyone who has ever attempted to use it in the schools and who has thought about the results that it has failed, over and over again, to produce. This theory, then, is just one of many curious assumptions that characterize schools and schooling and the conventions which, in turn, characterize them.

The assumptions which characterize schools and schooling are "curious" because despite repeated evidence to the contrary they not only persist, they intensify. One of the most common curious assumptions currently visible in the general system affecting schools is the one that holds that schools "in the old days" did a commendable job. The "old days" are the days in which the "basics" were drilled into kids, however reluctant, by "dedicated" teachers. "Dedicated" you might recognize is a euphemism for overworked and underpaid - a traditional condition of the teacher in America - and that is not an assumption, it is a verifiable fact.

The point is that despite the many romantic (and erroneous) misconceptions to the contrary, the status and "achievement" of schools and school teachers in the United States has never been very good. That is an important point to keep track of when considering the general system in which schools attempt to function. What has happened, as part of the general system, particularly since WW II, but beginning as far back as WW I, is that there has been (or, at least had been up until the end of the Vietnam adventure) a sustained quantitative increase in schooling in the U. S. as measured by its accessibility to an increasing number of prospective "students." This increase was made possible by a parallel increase in the quantity of dollars (but not necessarily in the relative proportion of dollars) devoted to accomplishing this objective. What was lost sight of in this noble venture was the fact that human beings assign value on the basis of ease or difficulty of access. That which is most easily accessible is least valuable. The most valuable is that which is most difficult of access.

But something has happened just recently that requires a serious reconsideration of schools and schooling by somebody in a policy making position. There has been what futurists refer to as a "systems break," that has yet to be seen in perspective by most people, including school people. A "systems break" is an irreversible shift in a pattern of operation that drastically changes (or even eliminates) a system. All of the formerly great civilizations that have "disappeared" are examples of systems breaks - and their consequences. If these civilizations had not suffered "systems breaks," they would not have disappeared. This system break that we all are experiencing might be considered as the "result" of the confluence of several changes in the general system - U. S. society and the system - the global system - in which it is attempting to function. These changes include: demographic shifts; role redefinition (as a result, in turn, of various kinds of "consciousness raising" made possible by mass media); the "end" of the Vietnam adventure; the "energy crisis"; and assorted economic changes resulting from these changes, most importantly the change in the rate of inflation. In addition to these changes in the general system, the schools have a range of specific manifestations of them - perhaps unique to schools and most are unprecedented in degree if not in kind. Most of these changes can be framed in the form of questions that schools, all over the country, are currently facing, frequently without being able to come up with any "answers" that seem to help.

These questions include:

> What can schools do to get more money as inflation increases?
>
> What should schools do in response to declining enrollments?
>
> What can schools do in response to increasing teacher militancy and unionization?
>
> What should schools be doing in response to increasing violence and vandalism?
>
> What can schools do about increasing use of drugs and alcohol by students?

What should schools do in response to the increase in "accountability" legislation?

What should schools do about increasing pressure for PBTE (performance based teacher evaluation)?

What should schools do in response to pressure for minimum competency testing"?

What should schools do about Title IX?

What should schools do in response to PL/94-142?

What should schools do in response to the "back-to-basics" pressure?

What should schools do in response to increasing litigation over "student's rights," "teacher malpractice," or the results of violence toward students and teachers?

What should schools do in response to the increase in the number of unsupervised students resulting from the increase in the number of single-parent "families," or working mothers, or "out-of-wedlock" births? (these are "new kinds" of students?)

What should the school response be to the fact that most kids spend 7,000 hours in front of a TV set before they start school, and to the fact that by the time they finish 12th grade, they have spent more time in front of a TV set than in all of their classes in all of their days in school?

What should schools be doing in response to the demand for behavioral objectives and behavior modification?

What should schools do in response to increasing legislation and court decisions that shape school policy and procedure?

What can or should schools be doing to improve the quality of life for students and teachers? (to minimize absenteeism by students and resignations by experienced teachers)

What should schools be doing in response to increasing sophistication in educational technology that functions better on the transportation theory of communication than human teachers can?

and so on. . . .

All of these questions, as well as several others, are real and "practical" and are being asked, one way or another, by school people all over the country. But, it is worth noting, that these questions are all shaped by one largely unconsciously held assumption, to wit: that the present form of schooling is the only one that can or should exist and that it must therefore be - somehow - defended, or reinforced, or reconstituted. There may not seem to be another choice. It may be too obvious to state, but it is true that it is not possible to make a choice that one does not know exists.

This permits me to move in the direction of my single point about schooling and the future.

Training is indoctrination in a fixed set of answers to convergent questions. The questions and answers both exist prior to and independently of any particular student, or teacher for that matter. The question theory of communication would seem to be appropriate to training. Education, however, is a different kind of enterprise. Education is a process of pursuing divergent questions - wherever they may go - in an attempt to develop a wider range of choices than was formerly available. Training recycles a closed system - like a catechism lesson. Education evaluates a system, opens it up, and develops alternatives. Training imposes answers. Education reveals choices.

So, another question facing the schools, perhaps for the first time, is "Should we be indoctrinating students in a fixed and predetermined series of answers from and about the past, or should we be helping them to learn how to develop new answers to the new and unprecedented questions we face?"

We live in uncomfortable times. This is not unique in the human story. What is unique is that we live in unprecedented times. Most of the questions noted above are unique to the times, the unprecedented times, we find ourselves in. Never before have human beings had to cope with change of such magnitude and at such speed as we, and most of us are numb to it. These are especially uncomfortable times to live in for anyone bound to the past, or to some romantic vision of the past. Any departure from the familiar, the routine, or the conventional is uncomfortable and disturbing for most people. That simple-seeming statement is deceptively benign. Change, recent and current, has rendered the past virtually useless as a guide to us today. Indeed, the degree to which we look backward toward some selective account of "how it used to be" is the degree to which we misuse the opportunity to respond in constructive ways to the redefinition that characterizes the world in which we are all trying, willy-nilly, to live. We are, and have been, especially for the past 30 years or so, trying to live in the midst of several simultaneous revolutions. One of the paradoxes of being in the middle of a revolution is that one has no perspective on it. One is just upset by it since it does not permit old assumptions about "how things ought to be" to be acted on.

Historians, in recent times, have characterized major culture epochs as "ages" of one kind or another: the Age of Reason and the Age of Anxiety, for example. Future historians may refer to our time as the Age of Redefinition. It is difficult to think of (much less find) anything that has not been or is not now being redefined. Virtually all value-systems, institutions, human relationships, roles and goals - in all parts of the world (another unprecedented phenomenon) are undergoing a process of redefinition. Most people find this extremely disconcerting, and evidence of their distress appears in various forms from depression to violence. The most widely consumed products in the U. S., for example, are chemical anodynes. Ritalin, valium, librium are consumed at a rate exceeding that of all the junk food combined. So great is our distress as a society in the fact of all the redefinition that it is possible to say that if all of the drugs, licit and illicit, plus all of the alcohol, and all of the semantic narcotics were suddenly removed, our whole society would screech to a halt in less than 72 hours. The U. S. may just be the most stoned society in the history of the human race, so low is our tolerance for a changing reality, and so poor is our ability to cope with change and uncertainty.

All of this is an awkward restatement of a crucial point that Norbert Wiener, one of the early developers of computers and the inventor of cybernetics, made in his book THE HUMAN USE OF HUMAN BEINGS (published in 1954 by Doubleday Anchor, Garden City):

> What many of us fail to realize is that the last 400 years are a highly special period in the history of the world. The pace at which changes during these years has taken place is unexampled in earlier history, as is the very nature of these changes. This is partly the result of increased communication, but also of an increased mastery over nature which, on a limited planet like the earth, may prove in the long run to be an increased slavery to nature. For the more we get out of the world, the less we leave, and in the long run we shall have to pay our debts at a time that may be very inconvenient for our own survival. We are the slaves of our technological improvement and we can no more return to a New Hampshire farm to the self-contained state in which it was maintained in 1800 than we can, be taking thought, add a cubit to our stature, or, what is more to the point, diminish it. We have modified our environment so radically that we must now modify ourselves in order to exist in this new environment. (p. 46)

How about that for an objective, behavioral or otherwise? We must now modify ourselves in order to exist in this new environment. Dinosaurs, which were inhabitants of our little blue marble for much longer than human beings have been, have long since left the scene - probably as a result of a "systems break" that they could not modify themselves in response to.

One of the questions that education (including schools) faces then, a very "practical" question, no matter how "theoretical" it may seem to those so submerged in day-to-day problems that they cannot see the practicality of a basic survival question, is "What changes do we need to make in ourselves in order to increase our survival prospects?" This kind of question is an attempt to respond to the need for a redefinition in the role of education in unprecedented times. One of the answers to the question is: "The first step toward modifying ourselves requires that we change the ways in which we think." The next question is: "How do we go about doing this?"

Given the present assumptions that shape the policies and conventions that comprise the public school, there probably isn't much that the school can do about responding to either of these questions, even if they are perceived as being "practical."

As much as I admire George Counts, it seems to me that he posed the wrong question when he asked: "Dare the schools build a new social order?" The question that needs asking in view of the realities we are all desperately trying to avoid facing is "Dare the society build a new order of schools?" In the absence of a substantive recognition of the systems break to which I have referred, the answer, alas, seems to be "No."

The most obvious example to support this conclusion is that in the face of the most obvious of the colossal changes that education ought to be responding to today, the closest thing to a "movement" in the schools is "back to basics." It is as if we are standing in a world in flames and forcing the schools to focus on the question: How can we fix our cigarette lighters?

This is probably predictable since most of us regress emotionally and intellectually when the circumstances that affect our lives seem to be out of control. The increasing feeling that nothing is under control (which of course it isn't) leads us to assume the intellectual equivalent of a foetal position.

Those of us who can ask only old questions in the face of a new set of circumstances are condemned to come up with old answers. No matter how good the old answers may have been at some time in the past, if there is one point that is increasingly clear it is that old answers not only do not solve any problems today, they compound them since they are what produced them in the first place.

One of the most obvious old answers that Americans have to give in response to almost any question or problem is "More." More of the same. In school, for example, if "X" amount of some kind of instruction doesn't seem to produce the intended results, "more" of the same is usually prescribed. Years ago Santayana defined fanaticism as "redoubling your efforts after having forgotten your aim." In school this is called enrichment. It is one of the more curious of school phenomena that, at a time when we need to redefine what we are doing, more and more effort is going into "covering" more and more old answers in the hope that scores will "go up" on some standardized test or other.

The pressure to "cover" more old answers is even more curious when the basic process involved is considered. In the midst of all of this redefinition, and at a time when it makes less sense than it ever did, students are expected to memorize (or feign having memorized) more old answers to somebody else's old questions. Memory, in other words, is elevated to the highest level of "cognitive activity" at a time when this most elementary, even primitive, intellectual ability is least possible if not least necessary. Computers can "memorize" not only incalculably more, but more accurately, than any person could ever hope to.

Why then this increasing emphasis on an increasingly inadequate process?

Herbert A. Simon, who was awarded the Nobel Prize in "economics" in 1978 is not regarded as an "economist" by anyone who comes up with old answers to old questions about economics. He is a professor of psychology and computer science at Carnegie-Mellon University. I want to note what Simon says his most important "discover" in "economics" was that led to his being awarded the Nobel Prize. (He described his discovery, incidentally, in a book published 30 years ago.) It may seem so obvious as not to warrant stating, but it applies to what I have been saying about the schools inability to respond to the demands of the present and the future. Simon's entire professional career has been focussed on how policy decisions are made in corporate structures. Corporate policy makers, like everyone else, seem to be faced with the task of making decisions (i.e., coming up with answers to questions) without having sufficient information, and without an awareness of the kinds of questions they are asking. That circumstance, of course, circumscribes the range of possible decisions (answers) that they can come up with, but that is not the most important part of Simon's observations. As he says, the key weakness in the process of making policy decisions is that the answers that worked once may be tried over and over again in situations requiring entirely different resolutions. I would add that, in such instances, the wrong questions are being asked if old answers can be recycled into situations that are so new as to render them not merely useless, but counter-productive.

When trying to cope with rapid change and redefinition, it is self-defeating, to put it mildly, to persist in merely invoking old answers to old questions. New, unprecedented, and redefined circumstances required new questions - divergent questions - in order to generate new answers, new choices.

What has this to do with education for the future?

Well, schools, along with most other institutions in our society, were shaped during times when change occurred so slowly as to be almost imperceptible, when there was a feeling of "stability" that came with the feeling that things were "under control," when today was pretty much like yesterday, and when tomorrow was expected to be pretty much like today. Under such circumstances, schooling could rely on the past as a useful guide to the future, and so serve a conserving function, "imparting" the values and wisdom of the past that had served as means of survival for the group. In such a situation, the "curriculum" could (and did) exist prior to and independently of any particular student or teacher, and the student's task could reasonably consist simply and solely of memorizing (or somehow feign having done so) a sufficient quantity of "correct" answers to "pass" a given course of study. When a sufficient (and arbitrarily determined) number of such credits had been accumulated as a result of this redundant process, a diploma "certifying" the student's perseverance (if nothing else) could be awarded and the student could then go on to exercise whatever "rights and privileges" appertained unto his or her diploma. You may recognize this process; it has yet to be redefined.

So what? Well, if you recall the problem that Norbert Wiener described for us in 1954, the one relating to our need to "modify ourselves" in order to increase our survival prospects in an unprecedented environment, you might begin to get some sense of how anachronistic the conventional school procedure of having students merely memorize someone else's answers to someone else's old questions turns out to be. If we can take the position that survival - physical, emotional, and intellectual - is "basic," then we can take the position that not only is the conventional, unredefined, school not "practical," it is palpably dysfunctional since it bears little or no relationship to the kinds of skills, attitudes, concepts, or beliefs that are necessary for survival in a world that is characterized by redefinition. The most obvious example of how dysfunctional conventional schooling is in this regard is provided by the relentless procedure of focussing virtually all of the time and effort of teachers and students on "correct" answers. Every question, in every book, and on every test, standardized or otherwise, has one, and only one, "correct" answer. The concept that every question has only one - pre-existing - "correct" answer is as dysfunctional in a rapidly changing world as any that can be identified. Perhaps the most dramatic illustration of the redefinition that is occurring is provided by the increasing awareness of the inappropriateness of single, absolute, unqualified "correct" answers - to virtually any question about anything. In the world outside the school, the operational concept is that any answer to any question is contingent upon particular circumstances which are themselves subject to rapid and massive change and that we do not ever have the luxury of dealing with "certainty" but rather can only formulate relative degrees of probability. Conventional schooling proceeds as if we live in a universe that operates like a simple checker game when the fact is that we live in a universe that is more complex than a chess game. J. B. S. Haldane, a Nobel laureate in biology, once noted that "the universe is not only more peculiar than we imagine, it is more peculiar than we can imagine." Conventional schooling emphasizes the memorization of nouns (almost all courses are taxonomies of names) when the fact is that we have to live in a universe of verbs. The real world consists not of fixed states but of a rapidly changing matrix of processes and conventional schooling denies this.

All of which brings me, finally, and possibly anti-climactically, to the single-point I mentioned I had at the outset. This is the specific, most-needed, over-all form of redefinition for the schools to undergo in order to be responsive to the demands of a changing and uncertain present and future. It consists of a shift from looking backwards toward the past and memorizing old answers to old questions to an examination of the present and its probable extensions into the future largely through heuristics - an examination of how we "think," how we "learn," that is, how we make meanings, and especially of the role that questions play in the meaning-making process.

The one process that all human beings are constantly engaged in - awake or asleep - is that of making meanings. The degree to which we are able to formulate feasible meanings is the degree to which we are "happy" or "satisfied" or "successful" or "competent" or whatever other positive term you wish to use. If we are unable to make feasible meanings of the changing circumstances around us, we are condemned to negative, frustrating, and demoralizing experiences.

It turns out that the one ability that all of us most need to develop, irrespective of who we are or what we do, is that of knowing how to ask questions: knowing how to distinguish between different kinds of questions, on different levels of abstraction, and knowing how to discern an appropriate sequence of questions and how to reorder questions that are in an inappropriate sequence - for a particular purpose. Every decision, every choice we make in our lives - about everything - is an answer to a question, or a series of questions, that most of us are unaware of having asked. Most of our choices and decisions are inferential, yet most of us are unaware of when and how we make inferences, and how critical the inferences we make can be.

It also turns out that new questions are the only human instrument (apart from serendipity) available for generating new knowledge. Old questions merely recycle old answers. In order to generate new answers, new questions must be framed - new questions that permit feasible and testable answers.

In view of these facts, it becomes necessary to consider the preoccupation in conventional schooling, to the point where it virtually excludes any other activity, with memorizing "correct" answers. In a rapidly changing and uncertain world, the most important intellectual ability is not that of memorizing old answers, it is the ability to ask useful new questions. Yet, with all of the attention to questions and their answers in conventional schools, it is rare, to the point of impossibility, to find anyone getting any help in how to ask questions. If we are serious about "modifying" ourselves in order to meet the demands of an unprecedented world, one of the first steps to take in education is that of shifting from an exclusive emphasis on answering convergent questions to a primary emphasis on framing divergent questions in order to generate a range of new answers to the new questions facing us in the real world outside of school.

Remember, training is indoctrination in a set of pre-existing answers to a set of convergent questions. Education is a process of framing and pursuing divergent questions for the purpose of developing new choices.

If our survival is "basic," then education as defined here is "basic." Mere training is insufficient to the task.

The redefinition of schooling from training to education in order to meet the demands of the future requires nothing less than a redefinition of what is "basic." It also requires a redefinition of the processes via which such an education is best pursued.

The probability of such a redefinition of schooling occurring is determined by us, you and me, and the kinds of questions we ask and the kinds of answers they produce.

All we have to do to increase the probability that we will not survive the systems break that has already occurred is nothing.

developing a regional agenda for educational policy issues

CHARLES J. LAW

The topic I will address is the Development of a Regional Agenda of Educational Policy Issues. The question is not whether or not such a regional agenda shall be developed. The agenda for educational policy decision making is being determined by what is done or not done today.

One of my favorite books is entitled I Ain't Much, Baby, But I'm All I've Got. That book suggests that not only is the future now but all we can control is the present five minutes. What matters most is what one does with what one has right now. That has a message for us. Since the regional agenda is being set, two of the more important questions are these: "Who shall develop such an agenda and how shall it be developed?" These are not profound questions, but they are questions this group needs to address. Some other questions include: "Shall that agenda be set by a select few, or shall it be set by as many of the people that it is possible to pull together?" "Shall it be set by the advent of advanced technology or shall it be set by withdrawal based on a fear of the new?" "Shall it be set on regional growth or shall it be set by the holding to the good and the not-so-good of the past of our region?" The answer is probably "Yes, to all the above."

What is the role of education in setting the agenda? The Southeastern Regional Council was conceived by the Chief State School Officers and conceptualized by John Hayman as a "proactive" organization. I understand the verb "active." I have had to search further to understand the term "proactive." As I have tried to read the minds of the designers of the Council, I interpret "proactive" to mean, being actively in pursuit of something worthwhile. Proactive is the opposite of reactive. Historically, education has been reactive and we resent it, but we have not done an awful lot about it. We seem to accept our role. The excitement of the Council concept is that the ten Chief State School Officers were saying, "No more reaction, let's be proactive."

Education should be on the cutting edge of society, making changes and not simply reacting to the changes. Too, for those who would say, "Why should education be on the cutting edge"? and "Why should the Chief State School Officers and we be proactive ("we" meaning all of us in the South interested in education)"?, I would suggest Robert Kennedy's response, "Why not"? The question has to be, "Why not be proactive unless you are willing to settle for what we now have, i.e., continually being "under the gun" or being held accountable for things over which we really have no control. Unless we are willing to become proactive, we have to stay with the question of "Why should education lead the South and we cannot deal with the "Why not"?

The Council's purposes are in line with the "Why not"? question. Why should education not set the direction for this region or at least participate in the setting of it? We should pursue setting the direction of this part of our country. In that pursuit, some of the tasks must be to identify, probe, access and activate. These are action verbs. They are not the only ones.

How is that done? There are activating, accessing and identification groups all over our region. Somehow, they have not seemed to do anything except frustrate, another verb. The difference in the instance of the Council is that the action is to operate from within the educational institution itself.

We, in the South, have always believed in institutions, the institution of the church, the home, the family, and education. One of the strengths of the Southeastern Regional Council, in fact, its principal strength, is its dedication to asking questions. A second strength is its dedication to asking those questions from within the educational institutions within our states designed to carry out education, hopefully even beginning to question the educational institution itself. Council's strength is that it has been designed at the request of and because of the need seen by those individuals in ten southeastern states who either are selected by you to carry out your educational programs or who are placed in those positions by persons over whom you do have elective control. They are your Chief State School Officers. If we are to change education within the region, this is one good way to do it.

Whatever your chief state school officer may be, he is your Chief State School Officer. Through that institution (position) is the best chance for improvement, provided the institution is willing to begin to ask the hard questions. How can education do it? It cannot do it through a prima donna attitude which says, "Ah ha! And I have all the questions." But rather, "Here are some of the questions. Would you help me devise more"? It must be collaborative in its question-raising. The questions must be raised in a context of knowledge of what the future may be, tempered by a clear understanding of our present and our past. It must approach the task by taking advantage of self-knowledge.

Much has been said about what the South is, who we are, what we are and what we might be. Self-knowledge is one of the keys to self-understanding. A paraphrased title of Jess Lair's little book is appropriate, We May Not Be Much But We Are All We Got. We need to know what that is, then add to that a willingness to accept the views of others about us, because we may not be correct in what we think we are. To quote Robert Burns, "Would to God the gift to gie us, to see ourselves as others see us. T'would from many a blunder free us, and foolish notion." It is going to take both. We have had both here. We cannot settle for self-knowledge, no matter how good, without an understanding of the perceptions others have of us. In setting a regional agenda, we must not settle for either alone.

The task is to provide an opportunity within the system for expression of concerns by allowing the educational system to be accessed in ways never attempted before; to identify issues which rise from those concerns; and to frame questions about the issues so that they may be addressed.

I must digress to identify one activity that has been undertaken by the Council, i.e., the Carnegie summary some of you found outside. One of the tragedies in American education about which we talk is that research takes 20 or 30 years to get into the classroom. Perhaps one reason studies such as the Carnegie Study on Giving Youth a Better Chance never get to the classroom is that persons either try to transfer the recommendations carte blanche to the system without looking at the problems such a transfer will cause, which will fail. Or, those within the system who do not wish to touch it use all kinds of excuses and the bridge is never built between the research and the classroom. The value of and the possibility of implementing research recommendations (if they should be implemented) is greatly increased by building a bridge between such recommendations and correct operations by raising the pertinent policy questions. For example, one cannot accept the recommendation for smaller schools without first raising the questions of: "What does that do to desegregation plans"? "What does that do to bond issues that are pending"? "What does that do to comprehensive high schools that are already there"? It is questions like these, not necessarily deep questions, that must be addressed before research results can be implemented.

In framing questions collaboratively with much input, Council will be led towards postulating possible alternative solutions. Then, we will project, as best we can, the possible results of each of those alternatives so that persons may make a better choice, not the best choice, but a better choice than they otherwise might have. Council will then provide a forum, an open forum, for debate of the solutions. Please recognize this forum is within the institution of education and led by the educational leadership within the states. These kinds of things have been done outside before. It is when they are implemented from within, under the aegis of those in charge, that the impact will be greatest. Then each state may select, at its discretion, that which appears to be the best approach. I would hope that out of this process the Council would not develop a single solution for all ten states; but instead, develop alternative paths which can be adopted and/or adapted within a state, to be modified once again, as it moves to the local level. This should be followed always by the continuing questioning of "How is it operating"? "Were our original questions correct"?

The Southeastern Regional Council, which you, by virtue of being here, have become a part of in the truest sense is more than ten Chief State School Officers. It is certainly more than the tiny staff that operates out of the Research Triangle Park. The Council is one vehicle, not the only vehicle, not the best vehicle, but one vehicle that has been tentatively constructed for the force of change.

People have asked about the source of the title for the publication, our conference announcement which will now become a quarterly newsletter of the Council, THE FORCE. I'm not sure where it came from, it was just there. I think you have experienced what we were trying to describe in using the term, "The Force." It is here. It has been in this conference. It is alive. It is vibrant. It is central to the personality of this conference. It has grown over these two-and-a-half days!

The question for you, and for us is: "Will the personality that began to develop, as exciting and as vibrant as it has been, live or will it die, as we go back"? Or, more importantly, "How will it change and can the change be documented and can we improve upon what has begun"?

I'd like to characterize what I have seen happening, not as a new beginning, but hopefully a new understanding, not as a New South, but hopefully a better South, and not even as a New Frontier, unless we're talking about that frontier of bringing together all that we have been, all that we are, and all that we can be, from every aspect of the human capability. Such is THE FORCE.

We were warned that futures conferences do not succeed. We were told that they had failed. We were told that it was virtually impossible in two-and-a-half days, concentrating on the questions we attempted to concentrate on, to have persons leave the conference feeling good about it. I would like to let you know how I feel, based upon what I have learned here, what I have felt here and what I think is happening in this part of our country. To do that, I would like, once again, to paraphrase slightly one other book title of Jess Lair's, which says it for me and I think it says it for the South: We're Not Well Yet But We're A Whole Lot Better."